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ABSTRACT

This proceedings includes the following papers: "The 'Thoughtful' Health Practitioner: A Study of a Theoretical Basis for Critical Inquiry Regarding Liberal Arts in Health Professions Curricula" (Mary Jo Belenski); "Secondary School Vocational Program Performance Standards and Measures: Virginia's System of Locally Directed Evaluation" (Ann Echols, Donald E. Elson, F. Marion Asche); "The Instructional Environment of High School Classes: Outcomes of a Five-Year Observation Study" (B. June Schmidt, Margaret S. Isom); "The Impact of Population Density on the Likelihood of Aid to Dependent Children (ADC) Clients Becoming Economically Self-Sufficient" (Mary K. Benedixen-Noe, B.J. Mitias, William L. Hull); "Perceptions of Japanese Training and Development Professionals toward the Job Roles and Competencies Identified by American Training and Development Professionals" (Arthur I. Monegain, Larry R. Jewell); "Perceptions of North Carolina Building Level Administrators toward Vocational Education Programs in Agricultural Education and Technology Education" (Larry R. Jewell); "The Effect of an Outward Bound Course on Two Dimensions of Teachers' Sense of Efficacy" (Robert Allan Sills); "Mentoring African-American and Euro-American Doctoral Students in a Mid-Western, Pubic Research University" (Donald Laurent Sloan); "Teaching Performance among Middle Grade Career Exploration Teachers as Compared to Variable Certification Levels and Attributes" (Barbara Malpiedi Kirby, Larry R. Jewell, J. David Edwards); and "Predicting Organizational Commitment through Work Related Rewards for Marketing Education and Health Occupations Education Teachers" (Beverly Richards,

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OMICRON TAU THETA

ED 426 182

PROCEEDINGS

FIRST ANNUAL PROFESSIONAL STUDIES SEMINAR

Editors
Dr. David G. Craig, UTK
Dr. Barbara M. Kirby, NCSU

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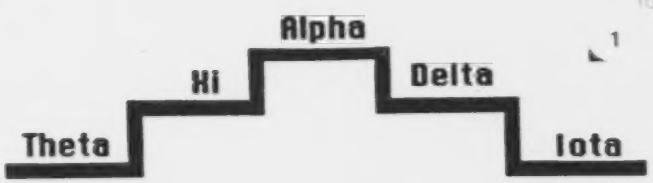

American Vocational Association
Commodore Room - Opryland Hotel
Nashville, Tennessee
December 3, 1993

CE 076 687

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Commodore Room - Opryland Hotel
Nashville, Tennessee
December 3, 1993

OTT Professional Studies Seminar

8:25	Welcome and Introduction	David G. Craig, UTK Barbara M. Kirby, NCSU	Alpha XI
8:30	The "Thoughtful" Health Practitioner	Mary Jo Belenski Montclair State College	Delta
	Secondary School Vocational Program Performance Standards and Measures: Virginia's System of Locally Directed Evaluation	Ann E. Echols Donald E. Elson F. Marion Asche Virginia Tech	Iota
	Tech Prep Implementation: Progress and Problems	Debra D. Bragg University of Illinois	Theta
	The Instructional Environment of High School Classes: Outcomes of a Five-Year Observation Study	B. June Schmidt Virginia Tech	IOTA
	The Impact of Population Density on the Likelihood of ADC Clients Becoming Economically Self-Sufficient	Mary K. Benedixen-Noe B. J. Mitias William L. Hull Ohio State University	Eta
	Perceptions of Japanese Training and Development Professional Toward the Job Roles and Competencies Identified by American Training and Development Professional	Arthur Monegain Larry R. Jewell N. C. State University	XI

10:30	Break		
10:40	Perceptions of Building Level Administrators Toward Vocational Education Programs in Agricultural Education and Technology Education	Larry Jr. Jewell N. C. State University	XI
	The Effects of an Outward Bound Course on Two Dimensions of Teachers' Sense of Efficacy	Robert A. Sills Warren Hills High School	Delta
	Mentoring and Locus of Control of African-American and Euro-American Doctoral Students in a Mid-Western, Public Research University	Donald L. Sloan University of Illinois	Theta
	Teaching Performance Among Middle Grade Career Exploration Teachers as Compared to Variable Certification Levels and Attributes	Barbara M. Kirby Larry R. Jewell N. C. State University J. David Edwards NC-SDE	XI
	Predicting Organizational Commitment Through Work Related Rewards for Marketing Education and Health Occupations Education Teachers	Beverly Richards Terrance O'Brien Duane Akroyd N. C. State University	XI
12:00	Closure	David G. Craig Barbara M. Kirby	Alpha XI

ABSTRACT

The "Thoughtful" Health Practitioner:

A Study of a Theoretical Basis

for Critical Inquiry

Regarding Liberal Arts

in Health Professions Curricula

By MARY JO BELENSKI

Delta Chapter Rutgers University

The curricula of health professions programs were often conceived primarily to enhance the student's technical understanding of the subject matter. However, the evolution of the allied health field is requiring that practitioners have a greater rational perspective. Therefore, the curricula of health professions programs might be expanded from merely skills training to a more comprehensive study designed to enhance the critical thinking required to develop and apply concepts and principles. Liberal arts education has long been noted for its favorable effect on critical thinking and its potential as a component in programs for the education of health professionals is evaluated.

The study examines how the critical curriculum theories of Henry Giroux and Michael Apple, as well as Jürgen Habermas' communication theory provide a conceptual framework that supports the inclusion of a liberal arts

component in health professions curricula. The study also surveyed health professions faculty to ascertain their attitudes and opinions concerning a liberal arts component in health professions curricula and their support for selected ideas of Habermas, Giroux and Apple that relate to liberal arts.

The study finds that the concepts inherent in Habermas' communication theory support the inclusion of a liberal arts component in health professions curricula. The study also finds that the critical curriculum theories of Giroux and Apple lend support for the concepts inherent in liberal arts as they stress that students must acquire a mastery of language and the capacity to think conceptually and critically. The canons of liberal arts are presented as a framework for that mastery. Further, in their criticism of over-technical curricula, Giroux and Apple indirectly argue for a liberal arts component in health professions programs.

Results from two questionnaires find that while the majority of health professions faculty respondents favored a liberal arts component and a liberal arts perspective in their curricula, they were not willing to begin the mechanics of getting these ideas implemented. Finally, health professions faculty who favor a liberal arts component in their curricula generally supported those theories of Apple, Giroux and Habermas that anfractuously espouse the values of liberal arts.

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For more information on this study, please contact:

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SECONDARY SCHOOL VOCATIONAL PROGRAM

PERFORMANCE STANDARDS & MEASURES

VIRGINIA'S SYSTEM OF LOCALLY DIRECTED EVALUATION

PRESENTERS:

ANN ECHOLS, GRADUATE PROJECT ASSISTANT

DR. DONALD E. ELSON & DR. F. MARION ASCHE, CO-DIRECTORS

VOCATIONAL EDUCATION PROGRAM ASSESSMENT & PLANNING PROJECT

O.T.T. - IOTA CHAPTER

ROOM 224 LANE HALL

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Paper Presented at the O.T.T. Professional Seminar

Nashville, TN

December 3, 1993

Secondary School Vocational Program Performance Standards & Measures:

Virginia's System of Locally Directed Evaluation

BASIC PERKINS REQUIREMENTS:

Each state is responsible for determining specifically what measures and standards to use.

The Perkins Act requires that the specific measures and standards used must fall within four categories.

BASIC PERKINS REQUIREMENTS:

CATEGORY 1:

Measures of learning and competency gains must be implemented including student progress in the achievement of basic and more advanced academic skills.

BASIC PERKINS REQUIREMENTS:

CATEGORY 2:

One or more of the following measures of performance must be implemented:

* Competency Attainment
* Job or Skill Attainment
* Retention in School or Completion of H.S.
* Placement into Additional Training or Education, Military Service or Employment

BASIC PERKINS REQUIREMENTS:

CATEGORY 3:

Incentives or Adjustments must be implemented that are:

* Designed to encourage service to Targeted Groups or Special Populations
* Consistent with each student's I.E.P., where appropriate.

BASIC PERKINS REQUIREMENTS:

CATEGORY 4:

Implementation of standards and measures should include procedures for using existing resources and methods developed in other programs receiving federal assistance.

PERKINS, SECTION 117:

Program Evaluation & Improvement

Recipients of Perkins funds will submit an annual review of programs assisted by Title II and Title III funds, as well as a local improvement plan if needed.

PERKINS, SECTION 117:

Program Evaluation & Improvement

THE ANNUAL REVIEW:

The annual review of programs must be made with the full and informed participation of representatives of individuals who are members of special populations.

PERKINS, SECTION 117:

Program Evaluation & Improvement

The focus on special populations is to:

* Identify and adopt strategies to overcome any barriers affecting access; and
* Evaluate the progress of individuals who are members of special populations

PERKINS, SECTION 117:

Program Evaluation & Improvement

THE ANNUAL REVIEW:

The annual review must also include an evaluation of the progress made by vocational education programs in providing students with strong experience in and an understanding of all aspects of the industry the students are preparing to enter.

Virginia's Program Evaluation & Improvement Guidelines were Developed by:

* The Virginia Committee of Practitioners
* Members of the D.O.E. Core Standards & Assessment Team
* The Virginia Core Standards and Measures of Performance for Vocational Education Writing Team

Virginia's Guidelines

Four measures are currently required to evaluate the performance of Virginia's secondary school vocational programs.

Virginia's Guidelines

PERFORMANCE MEASURE #1:

ACADEMIC ACHIEVEMENT

This measure is designed to assess the basic and advanced academic gains realized by vocational program completers. Mathematics, reading and communications skills are stressed.

Virginia's Guidelines

PERFORMANCE MEASURE #2:

OCCUPATIONAL COMPETENCE

This measure is designed to help evaluate the occupational-technical and employability knowledge and skills of vocational program completers. The teacher's judgement and locally validated competency lists are used to assess completers.

Virginia's Guidelines

PERFORMANCE MEASURE #3A:

ACCESS TO VOCATIONAL EDUCATION BY TARGETED GROUPS/SPECIAL POPULATIONS

This measure is designed to ensure that incentives and adjustments exist and are justifiable for targeted groups and special populations.

Virginia's Guidelines

PERFORMANCE MEASURE #3B:

SUCCESS IN VOCATIONAL EDUCATION BY TARGETED GROUPS/SPECIAL POPULATIONS

This measure requires re-application of the academic achievement measure and the occupational competence measure, separately, to these students.

Virginia's Guidelines

PERFORMANCE MEASURE #4:

SUCCESSFUL TRANSITION FROM SCHOOL TO FURTHER EDUCATION, EMPLOYMENT, MILITARY OR OTHER SERVICE, OR APPRENTICESHIP

This measure is evaluated using follow-up data gathered from vocational completers within one year after graduation.

Virginia's Guidelines

If a program fails to meet one or more standards, as determined through the annual program evaluation, a program improvement plan must be developed for the succeeding school year. Teachers, parents, and students concerned with or affected by the program must be invited to help.

Virginia's Guidelines

If this program fails to meet one or more standards, again, the following year, a program improvement plan must be developed in collaboration with State Department of Education Representatives.

EVALUATING AND STRENGTHENING LOCAL ACCOUNTABILTIY SYSTEMS

GOALS
- Does the program have goals, and the administrators and staff agree on what they are?
- Do constituents have goals for the program, and do these goals match those of staff?
- Are the goals measurable, i.e., can one determine if they have been achieved?
- Are the goals reasonable in light of local program experience and the experience of programs in other areas or other states?
- Does the program examine its purpose regularly to be sure it is on target?
- Can the program determine whether it is making progress?
- Do stakeholders and local experts have a role in giving direction to the programs, i.e., in setting goals?
- Has the program established priorities among its goals?
- When allocating scares resources, do administrators use program goals to guide decisions?

MEASURES
- Does the program know whether it is accomplishing its goals?
- What information is available that is relevant to goal attainment?
- How accurate and meaningful is this information?
- Is the information available to those who need to know?
- Do constituents share the impressions of staff?
- Do constituents understand the meaning of the information they receive?
- Are there important goals the program is not measuring and consequently is not considering adequately in planning?
- If the program fails to meet outcome objectives, does it have information to help it make improvements?

FEEDBACK
- How do constituents and staff know whether or not the program is effective?
- What kind of information about program success do they receive?
- How often is this information made available?
- How useful is the information to them?
- Do constituents and staff have questions about the program that are not answered?

INFLUENCE
- How satisfied are constituents with the program?
- How satisfied do program staff think constituents are with the program?
- Do constituents have avenues for making their opinions known to staff?
- If constituents are dissatisfied, what do they do?
- In what ways are constituents involved in program review and planning?
- Which constituents do program staff consult with most often?
- Has the program ever changed because of input fro constituents?
- What positive and negative consequences are associated with constituent exit?
- How real do program staff perceive these consequences to be?
- How do program staff make their concerns known to constituents?
- Do program staff try to manage constituents' reactions?
- Do constituents feel program staff are responsive to their concerns?

PROGRAM PLANNING AND REFORM
- How are new programs initiated?
- Under what circumstances are programs discontinued?
- What have administrators done in the past to improve programs?
- What would program administrators do if they learned a program was having problems (e.g. enrollment was low, a high proportion of students were not completing the program, the placement rate for the program was low, staff morale was low)?
- Do individual programs conduct internal reviews, and if so, how are they conducted?
- What role do instructors and department administrators play in curriculum review and reform?
- How do programs use input form employers and industry representatives?
- If students are dissatisfied with a class or a program, what happens?

Questions from *Beyond Vocational Education Standards and Measures: Strengthening Local Accountability Systems for Program Improvement* by Brain M. Stecher and Lawerence M. Hanser. Published by the National Center for Research in Vocational Education, Berkeley, CA, 1993.

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Tech Prep Implementation: Progress & Problems

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University of Illinois at Urbana-Champaign
217/333-0807

First Annual OTT Professional Studies Seminar
American Vocational Association Conference
Nashville, TN
December 3, 1993

Research Objectives

- Describe nationwide implementation of Tech Prep
- Identify factors that influence Tech Prep implementation
- Identify "best practices" for Tech Prep planning, implementation, & evaluation

Research Methods

- 50-State Survey (Fall 91-92)
- Field visits in 4 states (91,92,93)
- Mail questionnaire (Summer 93)

Mail Questionnaire

- National sample of local TP coordinators
- Questionnaire design & pilot test
- Multiple waves & follow-up

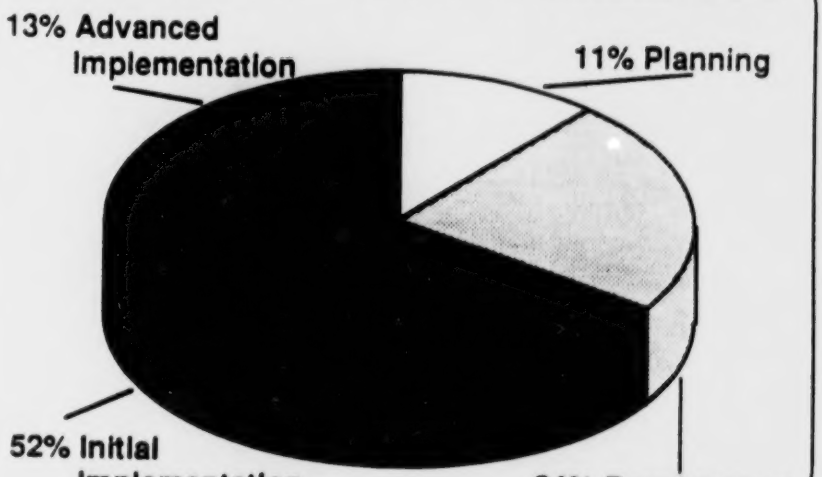
NCRVE
Local Tech Prep Implementation Survey

- √ Goals & outcomes
- √ Stage of implementation
- √ Barriers to implementation
- Consortium characteristics
- Coordinator background

Primary Goal

16% Reach student groups
17% Reform secondary ed.
13% Continue to postsec. ed.
13% Options beyond high school
36% Workforce, technology, & career preparation
5% Other goals

Stage of Tech Prep Implementation



"Most Advanced" Tech Prep Components
(n=397)

Rank	Component	Mean
1	Consortium building	4.10
2	Formal signed articulation agreements	4.02
3	Joint in-service of secondary and postsecondary personnel	3.81
4	Team building to facilitate Tech Prep	3.80
5	Equal access for all students	3.66

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"Least Advanced" Tech Prep Components (n=397)

Rank	Component	Mean
30	Apprenticeships (sec. to postsec.)	2.01
29	Computer monitoring of student progress	2.12
28	Job placement	2.52
27	Work-based learning	2.65
25	Advanced-skills technical curriculum	2.72
25	Integration of ac. & voc. at postsec. level	2.72

Implementation of "Essential" Elements (n=397)

Essential Element	Focus? YES	Not Begun	Plan/ Dev	Initial or Adv Imp
Common core curriculum	92%	3%	37%	60%
Formal articulation agreemts	96%	4%	49%	47%
Equal access for special pops	92%	7%	52%	41%
Preparatory services	79%	9%	51%	40%
Joint faculty in-service	90%	4%	25%	71%
Counselor training	83%	4%	41%	55%

Implementation of "Other" Elements (n=397)				
Other Element	Focus? YES	Not Begun	Plan/ Dev	Initial or Adv Imp
Integration (sec.)	96%	4%	49%	47%
Integration (postsec.)	**	22%	49%	29%
New teaching methods	72%	9%	48%	43%
Career guidance, awareness exploration	94%	8%	46%	46%
Work-based learning	68%	22%	51%	27%
Marketing	87%	7%	40%	53%
Job placement	47%	37%	36%	27%

Promising Trends

- Vocational education engages in reform dialogue
- More connections (organizational & individual)
- Inclusive educator professional development

Lingering Challenges

- Limited consensus & progress on curriculum reform
- Doubtful institutionalization
- Vocational ed. image & leadership deficits

Draft Document

THE INSTRUCTIONAL ENVIRONMENT OF HIGH SCHOOL CLASSES: OUTCOMES OF A FIVE-YEAR OBSERVATION STUDY

Research Presentation

Omicron Tau Theta Professional Studies Seminar
American Vocational Association Conference

by

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December 1993
Nashville

THE INSTRUCTIONAL ENVIRONMENT OF HIGH SCHOOL CLASSES: OUTCOMES OF A FIVE-YEAR OBSERVATION STUDY

Objectives:

Since 1987, the Southern Regional Education Board-Vocational Education Consortium has undertaken an extensive effort to improve instruction that students enrolled in high school vocational programs receive. The overall goal of the Consortium is to advance, apply, and evaluate instructional approaches used by both vocational and academic teachers that will improve work-related competencies of these students. The consortium includes 19 states with more than 55 pilot sites involved in the delivery of vocational education at the secondary level. A variety of methods for evaluating the outcomes of the instructional intervention strategies tried at the pilot sites are used. They include administering the National Assessment of Educational Progress tests, assembling transcript data, conducting follow-up studies, surveying and interviewing teachers and administrators, and completing classroom observations. For five years, 1989 through 1993, classroom observations at the 3 Virginia sites were completed in classes of vocational, including business, and nonvocational teachers.

The purpose of the observations is to provide an ethnographic description of the instructional climate the students encounter. For the observations, frequency of occurrence of events are recorded. Specific objectives for completing the observations include:

1. To compare instructional emphases in vocational and nonvocational classes, including focus, complexity, and extent of feedback;
2. To compare teaching activities in vocational and nonvocational classes, including student groupings, interactions, and degree of autonomy; and
3. To compare types of evaluation used in vocational and nonvocational classes.

Perspectives:

As Weber, Puleo, Kurth, Fisch, and Schaffner (1988) stated, "The current press for strengthening components in vocational programs can be traced to major changes, both in the nation's competitive posture and in the work place itself, which occurred in the early 1980s (p. 130). They note that these changes have led to increased interest in the appropriateness of our educational system which led to a number of reports on the "rights" and "wrongs" of it and how to achieve excellence in it. As part of the excellence movement, the suggestions offered generally were "more academic rigor" for all students. Yet the authors of the The Unfinished Agenda (1984) questioned the assumption "...that more academics, which may be the best preparation for college, is also the best preparation for life" (p. 1). The recent Secretary's Commission on Achieving Necessary Skills report, commonly referred to as the SCANS report (What Work Requires..., 1991), clearly reinforces the incorrectness of the assumption. The report states that work place know-how skills, ones effective workers need, are much broader than those learned through instruction focusing solely on academics.

Daggett (1984) argues that any dramatic improvements in the preparation of students, especially those who are not college bound, may require major changes in what is taught, when its is taught, and how it is taught, not simply increases in academic course requirements and higher test scores. From a study that included observations of instruction in 649 vocational and 244 nonvocational classrooms completed by Weber, et al. (1988) the investigators concluded that vocational classrooms appear to provide frequent and varied opportunities for strengthening students' basic and higher-order skills, but teachers and students do not appear to capitalize on these opportunities. Thus, a need exists to document

more fully just what and how students in vocational programs, including business programs, are taught in the high school classes.

Research Methods and Data Sources:

At the 3 Virginia sites, observations of instruction were completed in the classes of both vocational and nonvocational teachers in the Spring of 1989, 1990, 1991, 1992, and 1993. A total of 740 classes with over 11,806 students enrolled were observed. For each class observed, 4 snapshots, each consisting of 1 to 4 episodes, were recorded. A snapshot represents a point-in-time while the episodes explain instructional "process" activities which occur over time and detail the content, depth, and complexity of the instruction taking place within each snapshot. In recording episodes within snapshots, the episodes involving the largest number of students were recorded first then the second largest number, and so on.

Procedures for recording the data were adapted from those used by Weber, et al. (1988). Major changes from the procedures they used were that more information about the instruction in basic academic competencies was recorded and some items of information about classroom detail were eliminated. Further, the procedures for recording the data were adapted for use of op-scan sheets to facilitate data entry and analysis. As with the Weber, et al. study, episodes served as the unit of analysis. Analyses included compiling frequency and percentage of occurrences for the various classroom activities observed.

Results:

Over the five years, a total of 5,226 episodes were observed as follows:

Nonvocational	2,257	instructional (74%)
	776	noninstructional (26%)
Vocational	1,330	instructional (85%)
	236	noninstructional (15%)
Business	454	instructional (86%)
	73	noninstructional (14%)

The average number of episodes for the vocational classes was larger than for the business and nonvocational classes, averaging 8.9 versus 6.9 versus 6.6. Thus the business and nonvocational teachers were more likely to have the entire class involved in one activity than the vocational teachers.

An example of an outcome for data recorded for a specific classroom occurrence, focal topic of the instruction, follows. Here data are reported only for episodes that focused on technical skills theory, technical skills practice, and basic skills, the most frequent focal topics.

Nonvocational	237	Technical skills theory (13%)
	274	Technical skills pract. (16%)
	1,241	Basic skills (71%)
Vocational	290	Technical skills theory (25%)
	808	Technical skills pract. (68%)
	85	Basic skills (7%)

Business	108	Technical skills theory (28%)
	267	Technical skills pract. (68%)
	16	Basic skills (4%)

Thus, as might be expected, students are more likely to be exposed to basic skills instruction in their nonvocational classes and more likely to be exposed to technical skills theory and practice in their vocational and business classes.

Another example would be how the students were grouped. The following details data for this variable.

Nonvocational	573	Indep. Students (19%)
	981	Small Groups (33%)
	407	Large Groups (14%)
	1,052	Total class (34%)
Vocational	447	Indep. Students (29%)
	711	Small Groups (46%)
	77	Large Groups (5%)
	304	Total Class (20%)
Business	161	Indep. Students (32%)
	111	Small Groups (22%)
	57	Large Groups (11%)
	178	Total Class (35%)

Thus, the student groupings in the business classes were similar to those of the nonvocational classes. The vocational classes on the other hand tended to have students working in small groups more often.

Information was also recorded regarding types of teaching activities. The 10 categories below were those most often recorded for instructional episodes.

Nonvocational	90	Audiovisual (4%)
	520	Discussion (24%)
	266	Lecture (12%)
	133	Demonstration (6%)
	278	Written Work (13%)
	140	Reading (7%)
	166	Physical Perf. (8%)
	387	Verbal Perf. (18%)
	116	Test Taking (5%)
	99	Preparation (4%)
Vocational	11	Audiovisual (0%)
	170	Discussion (14%)
	77	Lecture (6%)
	74	Demonstration (6%)
	113	Written Work (9%)
	33	Reading (2%)
	668	Physical Perf. (52%)
	73	Verbal Perf. (6%)
	28	Test Taking (2%)
	33	Preparation (3%)

Business	1	Audiovisual (0%)
	100	Discussion (23%)
	43	Lecture (10)
	5	Demonstration (1%)
	23	Written Work (6%)
	6	Reading (1%)
	125	Physical Perf. (28%)
	97	Verbal Perf. (22%)
	25	Test Taking (6%)
	15	Preparation (3%)

Most frequent teaching activities for the nonvocational episodes were discussion and verbal performance; for the vocational episodes, the most frequent teaching activity was physical performance; and for the business episodes, the most frequent teaching activities were physical performance and discussion. Overall, discussion proves to be the most used teaching activity.

Direction of interaction data for the episodes was as follows:

Nonvocational	551	No interaction (25%)
	1,030	Teacher to Student (47%)
	218	Student to Teacher (10%)
	394	Student to Student (18%)
Vocational	487	No interaction (35%)
	435	Teacher to Student (32%)
	123	Student to Teacher (9%)
	331	Student to Student (24%)
Business	176	No interaction (41%)
	171	Teacher to Student (40%)
	52	Student to Teacher (12%)
	30	Student to Student (7%)

For nonvocational classes, roughly one half of the episodes are teacher directed, while for vocational and business episodes about one third are teacher directed. For business episodes, no interaction is the most frequently observed interaction behavior, indicating that the students are completing tasks independently.

A final example of this type of data relates to the complexity of the task that is the focus of the episode. The findings for this variable follow:

Nonvocational	1,312	Simple (61%)
	846	Complex (39%)
Vocational	554	Simple (46%)
	646	Complex (54%)
Business	172	Simple (42%)
	242	Complex (58%)

Thus, slightly more than 50% of the episodes in vocational and business classes were classified as requiring students to complete complex tasks; while, slightly less than 40% of the nonvocational episodes were classified as requiring students to complete complex tasks.

Conclusions and Implications:

This study builds on previous research and provides insight as to the extent that the current high school instructional climate is compatible with teaching work place skills, such as those detailed in the SCANS report (What Work Requires..., 1991). The outcomes revealed more similarity between the instructional climate of the business classes and the nonvocational classes than between the business classes and vocational classes. For example, class grouping in business and nonvocational classes was most likely to be by total class, with the activity focus of a similar nature--grouping patterns and activities not conducive to developing such SCANS skills as working on teams, teaching others, leading, and negotiating. Further, the predominant mode of interaction in the nonvocational and business classes was teacher to student.

The data collected provide a wealth of information about the type and quality of instruction students at the three pilot-site schools receive in their vocational and nonvocational classes. The procedures developed for completing the observations have proven to be manageable and the data collected usable. Data input was relatively simple, since most data were collected directly on op-scan sheets. Further, careful and thorough training of observers has been essential to assure reliable collection of the data. Outcomes of the study reveal the current nature of classroom instruction, providing a basis from which to implement change.

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The Impact of Population Density on the Likelihood of Aid to Dependent Children (ADC) Clients Becoming Economically Self- Sufficient

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The Family Support Act (P.L. 100-485) of 1988 provides the genesis for welfare reform as it is being implemented through the Job Opportunity and Basic Skills (JOBS) training program in Ohio. The Family Support Act (FSA) assumes that full self-sufficiency and family responsibility are necessary and achievable goals. The Statue further recognizes, according to the rules and regulations, the mutual obligations of parents who are currently dependent, to work toward self-sufficiency through private employment, and of the government to support that effort.

In Ohio, the primary purpose of the JOBS program is to expand employment opportunities for recipients of Aid to Dependent Children (ADC) and Food Stamp benefits (FS) through training, education, and work experience. JOBS provides extended benefits to all ADC clients who leave the work arena because of un-subsidized employment

This seminar presentation is based on an evaluation of the impact of 8 pilot comprehensive vocational assessment (CVA) centers for ADC clients, established in Ohio during calendar year 1992. The CVA centers operated from April 1 to

December 31 during 1992, and they continue in operation today. The primary purpose of this study was to describe the program occurring at these centers, highlight strengths for duplication at other locations, and suggest revisions in the program. In the process, several factors emerged to influence the likelihood of ADC clients becoming economically self-sufficient. Population density appears to be one of these factors.

The primary data source for this study was ADC clients referred to the CVA centers. Of the 2647 clients referred from April 1, 1992 to December 31, 1992, over half, 1557 (58.8 %), showed up. The show up rate was highest for the Appalachian counties, 93.2 percent, and lowest for the super metro counties, 39.0 percent as indicated in Table 1. Once the ADC clients attended a session they tended to complete. The super metro counties had a 95.3 percent completion rate compared to a 85.9 completion rate for the Metro counties. No data were available from one of the rural counties because record keeping forms were being developed during this pilot phase, and it was not possible to reconstruct completion data for the early months of one site. The gender of the clients completing the CVA process was predominantly female, ranging from 70 percent in the Appalachian and rural counties to 92 percent in the super metro counties. Program completers tended to be in the 25-32 age range for all county types except for the rural counties. The mode for them tended to be in the 33-40 range.

Table 1

Percent of clients who showed up, and who completed the assessment by county type.

N = 1557

County Type	Clients Referred n	Number Who	
		Showed Up %	Completed[a] %
Super Metro	1,199	39.0	95.3
Metro	634	79.3	85.9
Rural	475	69.3	____[b]
Appalachian	339	93.2	93.3

[a]The percentage is based on the number who showed up for the evaluation the first day.

[b]Data not useable.

A random sample, stratified by county type, based on population density, was drawn from each county in proportion to the number of clients who completed the vocational assessment. This 8 percent sample of program completers (N=203) was used to evaluate the impact of the CVA centers. The centers were located in Adult Vocational Full-Service Centers associated with joint vocational schools.

Records were accessed by traveling to the 8 centers and reviewing the Individual Career Plan (ICP) of each client in the sample. In addition, interviews were held with clients and with the JOBS workers in the respective County Departments of Human Services between February 1, 1993 and June 30, 1993. At that time, records of clients were examined to determine their education/work status. Some of the client assessments had occurred in April of 1992, so some clients had nearly a year to enroll in education classes or training based on recommendations in the ICP.

The need to collect information from multiple sources prompted the use of different types of data collection instruments: (1) a records form was developed to transfer information from the clients' files--particularly the Individual Career Plan (ICP)--to project data files, and (2) interview forms were developed for the key actors in the assessment/career planning process. Interview forms were developed for the client, the vocational evaluator/counselor, and the JOBS worker.

The eight pilot centers are located throughout Ohio, two centers are located in each of the four types of counties: super metro, metro, rural, and Appalachian. These categories tend to order the counties from the most to the least in population density. These categories emerged as an important variable.

Table 2 shows the reading and math grade equivalent scores by type of county. Note the low reading and math scores for rural and Appalachian counties. In fact, 11 students enrolled in 2-year colleges had an average math grade equivalent of 6.37. Math and reading scores were significantly correlated, $r=-.48$ for math and $r=-.30$ for reading, with county type at the .01 level of significance.

One can only speculate on the reason why county type proved to be so important. Perhaps conditions at the sites were so different and so complex as to defy an examination of intra-relationships between agencies within a county, but the differences between counties were readily explained due to employment opportunities, migration patterns, life styles, etc.?

Important differences existed among the counties in the availability of educational providers. As expected, the more urban the county, the more numerous and diverse the educational providers. The reader should be careful not to equate more educational providers with better educational providers. As the data will show, a very limited number of clients went on to four-year institutions, so it is probably more important for access to two-year colleges and technical

Table 2

Reading and math grade equivalent scores by type of county

N = 203[a]

County Type	n	Reading		Math	
		$\bar{X}$	S.D.	$\bar{X}$	S.D.
Super Metro	55	10.2	3.21	7.90	2.90
Metro	52	10.98	2.78	8.80	2.37
Rural	49	7.82	3.75	5.82	3.0
Appalachian	41	7.67	4.25	4.43	1.29

[a]Missing data = 26

schools to be present than access to four-year institutions except in a few cases. Even when joint vocational schools (JVS) were present within the county, their location may inhibit easy access. In one case, a client would have to change buses twice and walk almost one-fourth of a mile to attend classes at the JVS.

Training status, or educational and training (E&T) placement and education/work status were positively related to county type. The less densely populated counties tended to place students in more upper level E&T situations. When holding a job was added to the above relationship, the significance held although the level of significance dropped from .01 to .05. See Table 3. Education and work status was positively related at the .01 level to number of months of elapsed time since the CVA took place.

The following conclusions were drawn from this study: (1) ADC individuals in rural and Appalachian counties have lower academic achievement in reading and mathematics than ADC clients in metro and super-metro counties; (2) the process of assigning and facilitating enrollment of individuals in educational classes needs to be improved; (3) counties with mid-range population density appear to offer the best environment for increasing the economic self-sufficiency of ADC clients; (4) education and work status of clients was positively related to the number of months of elapsed time since the assessment took place.

Table 3

Proportion of clients in education/work by type of county.

N = 203[a]

		Education/Work Status			
County Type	**n**	**Pending**	**GED/ABLE Classes**	**Other Classes**	**Working**
Super Metro	55	78.2	9.1	10.9	1.8
Metro	52	51.9	9.6	23.1	15.4
Rural	49	55.1	16.3	8.2	20.4
Appalachian	41	48.8	17.1	29.3	4.9

[a]Missing data = 6

The following recommendations are offered: (1) attention should be given to the literacy and math needs of ADC clients in rural and Appalachian counties prior to recommending educational classes; (2) the frequency and quality of communication between personnel at the Comprehensive Vocational Assessment centers and the County Departments of Human Services need to be increased in some cases; (3) adult education courses need to be staggered to start periodically throughout the year to better serve the needs of ADC clients; and (4) legislators need to increase funding for adult vocational education.

In summary, it seems to be clear that successful transition from ADC client status to un-subsidized employment depends on many factors. Some of them are the following: (1) communication within and between agencies, (2) availability of education providers, (3) the desire of the client to succeed, (4) family support, and (5) availability of transportation and child care.

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PERCEPTIONS OF JAPANESE TRAINING AND DEVELOPMENT PROFESSIONALS TOWARD THE JOB ROLES AND COMPETENCIES IDENTIFIED BY AMERICAN TRAINING AND DEVELOPMENT PROFESSIONALS

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PERCEPTIONS OF JAPANESE TRAINING AND DEVELOPMENT PROFESSIONALS TOWARD THE JOB ROLES AND COMPETENCIES IDENTIFIED BY AMERICAN TRAINING AND DEVELOPMENT PROFESSIONALS

INTRODUCTION

The focus of training and development, according to the American Society for Training and Development (McLagan & Suhadolnik, 1989), is "identifying, assuring, and through planned learning -- helping to develop key competencies that enable individuals to perform current or future jobs" (p. 18). The Models for Excellence report (McLagan, 1983) and the Models for HRD Practice: The Research Report (McLagan & Suhadolnik, 1989) described the training and development fields as it existed in the United States and provided sets of competencies and standards perceived as needed by American training professionals. Eurich (1985) asserted that "education and training were an absolute necessity in the world of work--an integral part of progress" (p. 22). So it follows that training and development activities are important to the success of Japanese and American joint-ventures as well.

As Japanese and American companies attempt to do business together, supporting staff services such as training and development play an important role in preparing people for future jobs, developing individuals and the overall organization, providing product documentation, keeping employees informed of policy, and training new workers to do their most effective and productive work, whatever their position. As Berkstresser and Takeuchi (1983) observed:

> The intensive trading partnership that has developed between the United States and Japan, coupled with the growing competition between American and Japanese firms for markets on a global basis, makes it extremely important that American businessmen [and businesswomen] understand as much about Japanese business as possible. (p. 265)

The training ad development function should play an important role in the development of that understanding. But how can the training and development professional, both Japanese and American, provide this link between the two cultures and create this cross-cultural understanding when they may not understand each other as individuals or share a similar professional focus?

Little has been done to identify and validate the roles played and competencies needed by Japanese training professionals. These roles have not been analyzed by Japanese training and development specialists nor have they been thoroughly investigated in analyzing how relationships between Japanese and Americans evolve. According to Abegglen and Stalk (1985), it is uncertain that any Japanese multinational company has created or developed a model or system to address the issues and problems of providing training overseas, which is fully satisfactory. Some writers on the topic of Japanese training issues feel that some Japanese are almost embarrassed to bring attention to cultural differences and deny that these differences could be problematic (Dillon, 1990). Eurich (1985) suggested that:

> The power and potential of corporate training are too often overlooked by people in government, in traditional education, and in industry itself ... they simply do not realize its impact or they may just consider it another short-cut to greater productivity. (p. 2)

As Japanese corporations move to become multinational their leaders should recognize the need in providing training to develop a system which transcends the boundaries of culture. Identifying cross-cultural differences in the training field is crucial as Japanese corporations expand and increase their corporate interests in the United States. The roles and competencies of training professionals need to be addressed in this cross-cultural expansion process.

In a time when Japanese corporations are increasingly interactive with the American corporate community, relevant comparative studies will be of great value (Yoffie, 1990). Yui and Nakagawa (1989) cited, in their report on the proceedings of the International Conference on Business History, the need for support of contemporary Japanese management for more careful scholarly analysis to contrast and compare cultural differences and provide significant insights into issues such as the impact training and development may have. Based on a study of 22 different American and Japanese corporate operations, O'Connor (1990) asserted that there was a necessity for professionals to have an understanding of cultures other than their own just for the sake of mutual prosperity. Knowing the types of training roles and competencies of Japanese training professionals can be important and useful information to the Japanese and American management teams who are engaged in business relationships. Such information would enable cross-cultural teams to coordinate training efforts in a timely and cost-effective manner.

The roles and competencies of Japanese training and development professionals cannot be assumed to be similar to those of American training and development professionals because of the vast differences between these two cultures. Identifying differences among training and development professionals across cultural boundaries can help to lessen the probability of conflicts that can arise from misunderstandings and also help to strengthen mutual relationships.

Japanese investments in the United States has grown significantly over the last several years with over 25 billion dollars in 1985, an increase of 27% over 1984. According to Curran (1988), who cited a study by the Japan External Trade Organization, there were approximately 435 Japanese manufacturing affiliates in the United States in 1988. Other writers such as Yoffie (1990) Pointed to the dramatic shifts in the structure of international trade and competition over the last decade which have become relatively volatile. Japanese firms garnered almost 50% of the world market in 1988 and were challenging historically dominant American firms in the United States within a number of industries.

In 1990 there were more than 640 plants in the United States, that were owned or partially owned by the Japanese, which employed approximately 160,000 workers. There were also over 100 additional Japanese-American plants which had planned to start their operations in 1991, according to Clarke (1990). These figures were actually higher because they did not include the Japanese retailing or service firms that had started operations in the United States. It has been estimated by some experts, according to Clarke (1990), that approximately 840,000 American will be working for Japanese companies by the end of the decade.

Japanese training and development professionals play a key role in helping organizations and individual workers to tackle the new problems they face today and may confront in the years ahead. As Japan continues to focus on international business strategies, Japanese training and development professionals should be agile in meeting the quickly changing needs of the international corporate community as well as willing to learn and apply new strategies and techniques critical to achieving success in a global marketplace.

The experiences and competencies of training and development professionals have a direct impact on the type of training that they develop. Sussman (1986) states that "a broad range of knowledge, skills, and applications must be acquired and developed by the training [and development] professional" (p. 3). This aspect of the experiences and competencies of training and development professionals may be linked in improving effective business relationships between Japan and the United States.

The use of new technology fuels the need for more training and retraining which, as cited by Stern and Muta, (1990), offers the potential of creating and using new training tools. Using new technology for training will mean a reexamination of fundamental questions related to the development of training and to the function of the trainer. Since there are many different Japanese industries currently operating in the United States, identifying corresponding roles and competencies of professionals in the training and development field could result in initiating a better understanding of personnel related issues between Japan and the United States.

Well trained and qualified personnel in local operations are needed as the shift of business functions is made from Japanese multinationals to the American personnel of subsidiaries. Curran (1988) reports that the need for better trained personnel holds true for a variety of jobs. Improved understanding of roles and competencies, as perceived by Japanese training and development professionals and by their American counterparts, will be helpful in establishing and maintaining smooth working relationships among workers in multinational settings.

PURPOSE OF THE STUDY

The purpose of this study was to investigate the perceptions of Japanese training and development professionals in Japan toward the roles and competencies identified by American training and development professional in the United States. More specifically, the study was designed to answer the following research questions:

1. Are the roles performed by Japanese training and development professionals in Japan, whose companies are organizational members of the Japan Industrial Training Association, different from those performed by American training and development professionals in the United States, as identified by the American Society for Training and Development?

2. Do differences exist between the ways Japanese and American training and development professionals perceive by job role the levels of importance required in performing the training competencies, as identified by the American Society for Training and Development?

3. Do differences exist between the ways Japanese and American training and development professionals perceive by job role the levels of expertise required in performing the training competencies, as identified by the American Society for Training and Development?

PROCEDURE

Population

The population for this study was an intact group of Japanese lead training professionals who worked for Japanese companies, and who were also members of the Japan Industrial Training Association (JITA), that attended the 1991 Annual HRD Conference of JITA in Tokyo. The conference registration list of JITA members who attended the conference served as the frame for the study (N = 259). This conference was open to all JITA membership and no selection process was used to determine who could or could not attend. The Japanese training professionals who attended the conference worked in cities throughout Japan, such as Tokyo, Osaka, Nogoya, Hokkaido, and Fukuoka and were employees of companies from different industries.

Instrumentation

The data collection instrument was a translated version of the entire survey instrument used in the study reported in Models for HRD Practice: The Research Report (McLagan & Suhadolnik, 1989). The survey instrument, using the same format and the same questions, was translated into Japanese from English by two translators in order to produce an instrument identical in content to the English version. Using two translators provided greater technical accuracy in the translation of the directions and questions of the survey.

To create an effective translation of the survey questionnaire the researchers used a three-step process: first, the researchers carefully reviewed the questionnaire to be used in the study for testing and distribution; second, the researchers worked closely with the first translator to translate the questionnaire into Japanese; and third, the second Japanese translator carefully reviewed the questionnaire as translated by the first translator, and then communicated to the researchers what the survey questionnaire was asking. This process was designed to serve as a safeguard to insure an accurate translation of the survey questionnaire.

The survey, once translated, was reviewed by the administrative staff of JITA and a pilot test was administered to the 30 staff members of the Japan Industrial Training Association to identify any difficulties, problems, or concerns with the directions, clarity, or content of the survey. Only minor issues were identified; they were addressed and resolved prior to the completion and distribution of the final survey instrument to the research population attending the conference.

The instrument used a Likert-type scale for responses. The Japanese training professionals were first asked to identify the primary roles(s) they played as training professionals, based on the roles identified by McLagan and Suhadolnik (1989). The roles were identified as: The Administrator provides coordination and support services for the delivery of human resource development programs and services; the Evaluator identifies the impact of an intervention on individual or organizational effectiveness; the Human Resource Development Manager supports and leads a group's work and links that work with the total organization; the Human Resources Development Materials Developer produces written or electronically mediated instructional materials; the Individual Career Development Counselor helps individuals to assess personal competencies, values, and goals and to identify, plan, and implement development and career actions; the Instructor/Facilitator presents information, directs structured learning experiences, and manages group discussions and group processes; the Marketer markets and contracts viewpoints, programs, and services for human resource development; the Needs Analyst identifies ideal and actual performance and performance conditions and determines causes of discrepancies; the Organization Change Agent influences and supports changes in organization behavior; the Program Designer prepares objectives, defines content, and selects and sequences activities for a specific intervention; and the Researcher identifies, develops, or tests new information and translates information into implications for improved individual or organization performance.

The respondents were then asked to read through the list of competencies identified by McLagan and Suhadolnik (1989) and rank the level of importance of each competency and the role(s) that best identified duties performed in their jobs. McLagan and Suhadolnik (1989) merged Training , Career Development, and Organization Development into a definition of Human Resource Development in terms of 37 competencies deemed necessary to perform the 11 different roles of American training professionals. The competencies are identified as:

1. Adult Learning Understanding - knowing how adults acquire and use knowledge, skills, and attitudes; understanding individual differences in learning.

2. Business Understanding - knowing how the functions of a business work and relate to each other; knowing the economic impact to business decisions.
3. Career Development Theories and Techniques Understanding - knowing the techniques and methods used in career development; understanding their appropriate uses.
4. Coaching Skills - helping individuals recognize and understand personal needs, values, problems, alternatives, and goals.
5. Competency Identification Skill - identifying the knowledge and skill requirements of jobs, tasks, and roles.
6. Computer Competence - understanding and/or using computer applications.
7. Cost-Benefit Analysis Skill - assessing alternatives in terms of their financial, psychological, and strategic advantages and disadvantages.
8. Data Reduction Skill - scanning, synthesizing, and drawing conclusions from data.
9. Delegation Skill - assigning task responsibility and authority to others.
10. Electronic Systems Skill - knowledge of functions, features, and potential application of electronic systems for the delivery of and management of human resource development.
11. Facilities Skill - planning and coordinating logistics in an efficient and cost effective manner.
12. Feedback Skill - communicating information, opinions, and conclusions so that they are understood and can be acted upon.
13. Group Process Skill - influencing groups so that tasks, relationships, and individual needs are addressed.
14. Industry Understanding - knowing the key concepts and variables such as critical issues, economic vulnerabilities, measurements, distribution channels, inputs, outputs, and information sources.
15. Intellectual Versatility - recognizing, exploring, and using a broad range of ideas and practices; thinking logically and creatively without undue influence from personal biases.
16. Information Search Skill - gathering information from printed and other recorded sources; identifying and using information specialists and reference services and aids.
17. Model Building Skill - conceptualizing and developing theoretical and practical frameworks that describe complex ideas in understandable, usable ways.
18. Negotiation Skill - securing win-win agreements so all parties involved are satisfied while successfully representing a special interest in a decision situation.
19. Objective Preparation Skill - preparing clear statements that describe desired outputs.
20. Observing Skill - objectively recognizing what is happening in or across situations.
21. Organization Behavior Understanding - seeing organizations as dynamic, political, economic, and social systems that have multiple goals and using this larger perspective as a framework for understanding and influencing events and change.
22. Organization Development Theories and Techniques Understanding - knowing the techniques and methods used in organization development and understanding their appropriate uses.
23. Organization Understanding - knowing the strategy, structure, power networks, financial position, and systems or a specific organization.
24. Performance Observation Skill - tracking and describing behaviors and their effects.
25. Personnel/Human Resource Development Field Understanding - understanding issues and practices in human resource areas other than human resource development.
26. Presentation Skill - verbally presenting information such that the intended purpose is achieved.
27. Project Management Skill - planning, organizing, and monitoring work.
28. Programming/Authoring Language Skill - designing, coding, and modifying computer software.
29. Questioning Skill - gathering information from and stimulating insight in individuals and groups through the use of interviews, questionnaires, and other probing methods.
30. Records Management Skill - storing data in an easily retrievable form.

31. Relationship Building Skill - establishing relationships and networks across a broad range of people and groups.
32. Research Skill - selecting, developing, and using methodologies such as statistical and data collection techniques for a formal inquiry.
33. Self-Knowledge - knowing one's personal values, needs, interests, styles, and competencies and their effects on others.
34. Subject Matter Understanding - knowing the content of a given function or discipline being addressed.
35. Training and Development Theories and Techniques Understanding - knowing the theories and methods used in training, understanding their appropriate uses.
36. Visioning Understanding - project trends and visualizing possible and probable futures and their implications.
37. Writing Skills - preparing written material that follows generally accepted rules of style and form, is appropriate for the audience, is creative, and accomplishes its intended purposes.

There were four levels of importance listed for selection by the respondents and each competency was accompanied by a definition. Next, respondents were asked to rank each competency they ranked as higher than "not important" by the level of expertise which they felt was required to complete the competency in their own jobs. The levels of the importance for each selected competency ranged from: 0 if the competency was not important to the role(s); 1 if the competency was of minimal importance to the role(s); 2 if the competency was of moderate importance to the role(s); and 3 if the competency was very important to the role(s).

A four-point Likert-type scale was used for the category of importance and a six-point Likert-type scale was used for the category of expertise. The levels of expertise required to perform each competency selected ranged from: 1 to 2 at the Basic Level, which required a general understanding of key principles and the ability to function in simple, repetitive situations; 3 to 4 at the Intermediate Level, requiring an in depth understanding and skill levels to function in a broad range of moderately difficult situations; or 5 to 6 at the Advance Level, which required a broad and deep understanding and skill level to function in complex, varied situations and as a model of subject matter mastery and skill.

After the Japanese version of the instrument was completed, reliability coefficients for the levels of importance and levels of expertise components were calculated using the Cronbach Coefficient Alpha form of the Kuder-Richardson K-R 20 formula (Borg & Gall, 1989). The levels of importance component had reliability of .919 and the levels of expertise component had a reliability of .961.

Data Collection

The survey instrument in Japanese was distributed by the General Secretary of the Japan Industrial Training Association (JITA) to all members of JITA who attended the 1991 Annual HRD Conference of JITA held on October 7th and 8th in Tokyo, Japan. Each participant received from the General Secretary a cover letter, written in Japanese, stating his support for the study and encouraging all conference participants (N = 259) to complete and return the survey instrument prior to leaving the conference. Two hundred and four (78.76%) of the instruments were completed and turned in during the conference.

Two weeks after the conference, the General Secretary of JITA then sent a follow-up letter and a copy of the survey to all conference participants. This follow-up letter requested all the nonrespondents, those who did not complete and turn in the survey instrument during the

conference, to complete and return the survey instruments within two weeks. Forty-three additional surveys were returned in response to the mailing.

According to Miller and Smith (1983) late respondents have been found to be very similar to nonrespondents. Based on this finding, data from late respondents (those who responded after receiving the follow-up letter) were statistically compared to data from early respondents. Since t-tests indicated no significant differences between early and late respondents, the data sample was assumed to be representative of the population and the data from early and late respondents were combined for analysis.

Analysis of Data

T-tests (Borg & Gall, 1989) were used to determine the level of statistical significance associated with the observed difference between the mean responses for the Japanese and American training professionals' perceptions of importance and expertise for the competencies required to perform their work related role(s). The perceptions identified by ASTD for American training professionals were reported by frequencies, means, and standard deviations and were published in the Models for HRD Practice: The Research Report (McLagan & Suhadolnik, 1989, p. 284-291).

Comparisons of the JITA results to those reported by ASTD for a given competency were made in two stages. First, each Japanese respondent was placed into one of the 11 job roles identified by McLagan and Suhadolnik (1989) depending upon the training role(s) they precieved that they were performing. Next, multiple *t*-tests (Borg & Gall, 1989) were used to simultaneously test the mean differences between the two groups of respondents , American and Japanese who performed the same training role, for level of importance for each of the 37 competencies to determine if any significant difference existed. This process was repeated for each of the 11 role groups.

A total of 407 *t*-tests were performed in this phase of the data analysis to determine the existence of any significant difference among the two national groups on the 11 job roles as described by the 37 competencies. American and Japanese perceptions of importance were contrasted on the 37 competencies across the 11 roles (11 x 37 = 407). When this many *t*-tests are made, the probability of having several significant *t*-tests happen by chance is nearly certain (Hinkle & Oliver, 1983). In order to control for this type of error, the Bonferroni Inequality (Casella & Berger, 1990) method was used to establish comparison-wise error probability and to compensate for using multiple *t*-tests. This method is inherently conservative in establishing an upper limit to the experiment-wise Type I error rate. Here the a priori *p* value of .05 was divided by 407 to establish a .0001 value as the level of significant difference. The two-tailed test of significance was used to allow the researchers to determine the significance level of differences between the two sets of mean in either direction (as in A greater than B, or B greater than A). The above procedures were repeated for the levels of expertise component of the study.

RESULTS/FINDINGS

ASTD Demographic Data

In the ASTD study there were 2,067 questionnaires sent out in two separate mailings with a return of 1178 (56.99%). A list of all the respondents who participated in the study was published in the Models for HRD Practice: The Research Report (McLagan & Suhadolnik, 1989, p. 99-115). These respondents were identified as role experts for performing the 11 roles of; Administrator, Evaluator, HRD Manager, HRD Materials Developer, Individual Career

Development Counselor, Instructor/Facilitator, Marketer, Needs Analyst, Organization Change Agent, Program Designer, and Researcher. Respondents were solicited from the ASTD Board of Directors, ASTD Board of Governors, Professional Practice Area Executive Boards, Professor Networks, and Task Force members. No additional information was available to describe the profile data for these training professionals who constituted the population for the ASTD study.

JITA Demographic Data

The Japanese version of the survey questionnaire was distributed to an intact group of 259 training professionals and 247 instruments were returned for a return rate of 95.36%. All the Japanese training and development professionals who participated in the the study identified themselves as Japanese by national origin. They had been employed by their companies for a mean of 16.65 years, with a range from 0 to 39 years of employment, and had been involved in the training field for a mean of 8.85 years, with a range from 1 to 51 years. The respondents' mean age was 47.06 years, and ranged from 24 to 72 years of age. The participants were 93.1% male and 6.9% female. Their levels of highest education ranged from; 18.2% graduating from high school, 3.6% graduating from a technical school, 74.2% graduating with a bachelor's degree, 3.6% graduating with a master's degree, and 0.4% graduating with a degree beyond a master's.

Comparisons of Perceptions of Job Roles and Competencies Between American (ASTD) and Japanese (JITA) Training and Development Professionals

The study addressed three research questions regarding the comparisons of perceptions of job roles and competencies between American and Japanese training and development professionals. The first question asked: Are the roles performed by Japanese training and development professionals in Japan, whose companies are organizational members of the Japan Industrial Training Association, different from those performed by American training and development professionals in the United States, as identified by the American Society for Training and Development? It was discovered that the roles performed by the American training and development professionals in the United States, as identified by the American Society for Training and Development, were also reported to be performed by the Japanese training and development professionals queried in the study. The responses showed that the JITA respondents performed an average of 3.46 job roles each.

Research question two for the study was: Do differences exist between the ways Japanese and American training and development professionals perceive by job role the levels of importance required in performing the training competencies, as identified by the American Society for Training and Development? The t-test results for levels of importance across the 11 roles identified 70 significant differences out of a possible 407 between the ASTD and JITA respondents in which comparisons were made among American and Japanese training and development professionals.

The third research question addressed by the study was: Do differences exist between the ways Japanese and American training and development professionals perceive by job role the levels of expertise required in performing the training competencies, as identified by the American Society for Training and Development? The t-test results for levels of expertise across the 11 roles identified 280 significant differences out of a possible 407 between ASTD and JITA respondents in which comparisons were made among American and Japanese training and development professionals' perceptions.

ASTD professionals rated the competencies of computer competence and electronic systems skills higher than JITA members for levels of importance and expertise, regardless of

role. ASTD professionals also rated programming/authoring language skill, cost-benefit analysis skill, observing skill, and questioning skill to be higher than JITA members for levels of expertise, regardless of role.

CONCLUSIONS AND RECOMMENDATIONS

The following conclusions were drawn based on the findings of the study:

1. Japanese training and development professionals perform the same basic training roles as American training and development professionals perform.

2. American and Japanese training and development professionals have different perceptions regarding the levels of importance for the competencies identified by the American Society for Training and Development as being required to perform roles in training ad development. Generally, Americans perceive the competencies as being more important than Japanese do.

3. American and Japanese training and development professionals have different perceptions regarding the levels of expertise needed to perform the competencies identified by the American Society for Training and Development as being required to perform roles in training ad development. Generally, Americans indicate a need for higher levels of expertise to perform the competencies that do Japanese.

4. American training and development professionals perceive that computer competence and electronic systems skill are more important that Japanese training and development professionals. Americans also feel that a higher level of expertise is needed to perform competencies regarding computers and electronic systems than do the Japanese, regardless of their training roles.

5. American training and development professionals feel that a higher level of expertise is needed to perform competencies regarding programming/authoring language, cost-benefit analysis, observing and questioning than do the Japanese, regardless of their training roles.

The following recommendations are based on the findings and conclusions of this study:

1. Management of joint-venture operations should communicate to training and development professionals that different perceptions exist between Japanese and American trainers toward the importance of the competencies needed to perform their training roles.

2. Management of joint-venture operations should communicate to training and development professionals that different perceptions exist between Japanese and American trainers toward the expertise of the competencies needed to perform their training roles.

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PERCEPTIONS OF NORTH CAROLINA BUILDING LEVEL ADMINISTRATORS TOWARD VOCATIONAL EDUCATION PROGRAMS IN AGRICULTURAL EDUCATION AND TECHNOLOGY EDUCATION

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PERCEPTIONS OF NORTH CAROLINA BUILDING LEVEL ADMINISTRATORS TOWARD VOCATIONAL EDUCATION PROGRAMS IN AGRICULTURAL EDUCATION AND TECHNOLOGY EDUCATION

INTRODUCTION

The National Research Council (1988) found that agriculture education programs were essentially existing in isolation, were not a part of the communities and businesses in which the schools existed, and recommended that formal and informal cooperative efforts between schools and their communities become a top priority for agriculture education programs. However, the United States Department of Education (1979) reported that public support for vocational education programs continued to be strong and Jewell (1987) reported that administrators in North Carolina perceived that a majority of the people in their communities regarded agriculture education as an important and essential part of a high school education.

The curriculum of the various vocational education programs has received much discussion in recent years. Many vocational education programs have remained the same for many years and the courses taught have failed to keep up with technology and new developments (National Research Council, 1988). All vocational education programs must stay in stride with advancements in technology in order to provide students with a quality education. In a Tennessee study, educational reforms that contributed the greatest degree to improvements in agriculture education programs were approval of science credit for agriculture courses, enhancing program image to counter negative impressions of agriculture education programs (Stewart, 1983).

Principals in a 1978 study perceived that agriculture education was being deemphasized and offered suggestions for program improvement such as offering a broader selection of courses and placing more emphasis on agriculturally related courses such as science (Clary, 1978). Warmbrod and Bobbitt (1987) concurred with Clary that instruction in agriculture should be undergirded with science, but should not be substituted for instruction in science. The National Research Council found that students not enrolled in agriculture education were seldom provided instruction or information about agriculture and recommended that science be taught through agriculture by using agricultural examples in all academic courses. Frantz, Strickland, and Elson (1988) and the National Research Council (1988) recommended that vocational education teachers constantly upgrade their curricula and programs, as well as implement more science and math instruction in vocational education courses. Only 18% of high school vocational education courses teach math, although students often learn math and other academic subjects in practical situations (Sperling, 1989).

The majority of school administrators in North Carolina surveyed in a 1986 study perceived the purpose of agriculture education programs to be training for employment in agricultural occupations (Jewell, 1987). The curriculum must be broadened in agriculture education to prepare students for post-secondary education in agriculture including preparing students for career opportunities in agricultural sciences, agribusiness, marketing, management, and food production and processing (National Research Council, 1988). Jewell also reported that North Carolina administrators perceived that agriculture education programs were providing the necessary occupational preparation for students to enter an agricultural occupation after high school graduation.

Stewart (1983) reported that 100% of the superintendents in a study he conducted responded that courses in agricultural production and agricultural mechanics were needed,

while 37% of the superintendents indicated that horticulture programs were not needed in their schools. Ninety-one percent of the superintendents indicated that course offerings in agricultural sales and service were needed (Stewart, 1975). In a study involving Arizona administrators, principals listed teaching technical agriculture and agriculture mechanics as the most important responsibility of agriculture education teachers (Cox, 1986). North Carolina administrators indicated that students who took agriculture education for four years received an adequate high school education although the percentage of the administrators indicating those beliefs decreased between 1978 and 1986 (Jewell, 1987). According to Jewell (1987), principals believed that the programs should be general in nature and should provide a general knowledge of agriculture. Warmbrod and Bobbitt (1987) recommended that the introductory course in agriculture education be general in nature, followed by courses in succeeding years which increase in specificity. Administrators in an Indiana study also believed that vocational education should be a part of the education of all pupils and that vocational education at the secondary level should be specific, not broad and general (Nasstrom and Baker, 1979). The National Research Council concluded in a 1988 study that systematic instruction about agriculture should begin in kindergarten and continue through the twelfth grade to help Americans become agriculturally literate. Jewell (1987) also recommended that consideration be given to increasing the number of general and/or introductory agriculture courses and that this recommendation might be accomplished by expanding agricultural offerings to the middle and elementary schools. Frantz et al. (1988) recommended that polices should be established at the local and state levels to protect schools' comprehensiveness and student access to vocational education programs.

Sperling (1989) stated that vocational courses should prepare students for many different jobs in an occupational area, rather than one specific job. He also stated that in schools ranking at the bottom in terms of academic achievement and poverty, students had less access to vocational courses, less access to advanced-level vocational courses, and less access to supervised work-study programs than students in other schools. To address the enrollment issues, vocational education may need to move away from multi-course programs and multi-year, multi-period courses to shorter and more flexible offerings (National Research Council, 1988).

Ninety-seven percent of all high school students take at least one vocational course and 75% of all vocational courses are being taken by college bound students (Sperling, 1989). However, less than five percent of the high school population enrolls in a three or four year vocational agriculture program, which means that only a small percentage of students are being exposed to extensive levels of advanced occupational training in vocational agriculture education (National Research Council, 1988). The National Assessment of Vocational Education reported that administrators may be at least partially responsible for students failing to enroll in vocational courses because they once allowed vocational teachers to make presentations in classes and assemblies to recruit students, and now administrators restrict those activities (National Assessment of Vocational Education, 1988).

Changes in vocational education will require the approval and support of school administrators since they have authority and influence in programs and curricula at the school and school system levels. Thompson (1986) reported in an Arkansas study that administrators' opinions are very important since administrators' decisions often drastically affect program operations and directions. An example of administrators' influence was found in a study of Kansas school districts that did not have agriculture education programs (Parmley, 1982). The study concluded that rural residents and agribusiness representatives wanted agriculture programs, but the school administrators did not. The administrators cited a lack of student interest, inadequate facilities, inadequate funding, and the lack of a need for agriculture education as reasons for not implementing the programs (Parmley, 1982). A 1979 national

study included in its findings that a significant number of school administrators do not support programs providing high school students opportunities to develop saleable job skills through vocational programs, and these administrators will determine whether or not vocational education is available in the secondary schools (United States Department of Education, 1979).

Administrators are the instructional leaders in their schools and/or school systems and their leadership in curriculum and instructional reform are important. Administrators with negative attitudes toward vocational education and/or reform recommendations will probably not be successful in implementing these initiatives in their schools or school systems. This study provides vocational educators with information that can be analyzed to overcome or improve situations which could have a negative effect on agriculture education and technology education. Strategies may also be developed to enhance agriculture education and technology education programs so they can continue to be important and viable components of public education.

PURPOSE AND OBJECTIVES OF THE STUDY

The purpose of the study was to determine building level administrators' attitudes toward vocational programs in agricultural education and technology education at their schools. More specifically, the objectives of this study were as follows:

1. To determine the attitudes of building level administrators in North Carolina concerning their agricultural education program curriculum issues.

2. To determine the attitudes of building level administrators in North Carolina concerning their technology education program curriculum issues.

3. To determine if the attitudes held by school administrators in North Carolina differ between their local agricultural education and technology education programs toward curriculum issues.

PROCEDURE

Population

The population for the study included the building level administrators (principals) in North Carolina who had either Agricultural Education or Technology Education as a part of their school curriculum offerings during the 1992-93 academic year. The population was identified by first identifying the schools which offered agricultural education ($\underline{N}$ = 244) and technology education ($\underline{N}$ = 369) and than identifying the principals of those schools. Independent samples were drawn from each group of principals for a total sample of 338 (150 principals of schools offering agricultural education courses and 188 principals of schools offering technology education courses) and were selected by a computer generated random selection process from a total population of 613 principals. The samples were stratified by program area and selected proportionally.

Instrumentation

Two parallel instruments were developed for this study to determine administrators attitudes toward agriculture education and technology education programs and course offerings. One instrument addressed topics regarding agricultural education course offerings and programs and the second instrument addressed topics regarding technology education course offerings and programs. Content validity was assessed by a committee of experts in the agricultural education

and technology education fields. The instruments were field tested to determine clarity. Coefficients of the stability were found to be .94 for the agricultural education instrument and .96 for the technology education instrument.

Data Collection

The instruments, along with a cover letter, were mailed on June 10, 1993. The members of the sample were asked to return the completed survey by June 30,1993. The vocational directors from the local education agencies who had principals selected in the research sample was also sent a letter on June 10, 1993 and asked to contact their principals and urge them to complete and return the survey instruments they had received. A follow-up mailing was sent to those members of the sample who failed to respond to the first mailing on June 30, 1993. Those persons receiving a follow-up mailing were asked to return the completed survey by July 9, 1993. The surveys returned by the late respondents (follow-up mailing) were kept separate from those received after the first mailing. Responses received from the follow-up mailing were statistically compared on all variables with the initial responses using Hotelling-Lawley Trace statistics which is the appropriate multivariate analyses of variance (MANOVA) to use when using two independent samples.

A total of 112 responses were received from the principals with agricultural programs after the first mailing and 20 additional responses were received from the non-responding principals with agricultural education programs after receiving the follow-up mailing. The responses from the follow-up mailing were compared to the responses received from the first mailing and no significant differences were found ($F = 0.543$, $p = 0.4641$). According to Miller and Smith (1983), late responses have been found to be very similar to nonrespondents. Therefore, since no statistically significant differences between early and late respondents were found, the data sets were combined for statistical purposes and were assumed to be representative of the populations of principals who had agricultural education programs at their schools during the 1992-93 academic year. The combined total usable response from the principals with agricultural programs was 132 or 88%.

A total of 76 responses were received from the principals with technology education programs after the first mailing and 36 additional responses were received from the non-responding principals after receiving the follow-up mailing. The responses from the follow-up mailing were compared to the responses received from the first mailing and no significant differences were found ($F = 0.606$, $p = 0.4543$). The responses of both mailings from principals who had technology education programs at their schools during the 1992-93 academic year were then combined for a total usable response of 112 or 60%.

Analysis of Data

The data for this study were analyzed by descriptive and inferential statistical procedures. Descriptive statistics were utilized for all items in the study and frequencies, means, standard deviations, and percentages were reported. Descriptive statistics were used to answer research objectives 1 and 2.

Eight parallel questions were used on both the data collection instruments to obtain opinions of administrators toward the agricultural education and technology education curriculum issues. Research objective three was answered by analyzing the responses of the administrators to corresponding questions on each of the two instruments and multivariate analyses of variance (MANOVA) was used to determine if the attitudes held by school administrators in North Carolina differed between their local agricultural education and technology education programs. MANOVA was used because MANOVA is used to determine

whether several groups differ on more than one dependent variable when the dependent variable is interval data and the independent variable is categorical. If the responses of the groups were found to be significantly different using the Hotelling-Lawley Trace statistic, which is appropriate for two independent samples, one-way analyses of variance (ANOVA) were used to determine which items were significantly different among administrators. Downie and Heath (1974) set forth the assumptions which should be met when using analysis of variance. These assumptions were that 1) the sample should be representative through randomization, (2) the data should be homogeneous and (3) the sample should be independent using randomly selected individuals. In this study, the research samples were randomly selected to address assumptions one and three and assumption two was met by conducting the Bartlett's test of homogeneity. An alpha level of .05 was selected a priori for this study.

RESULTS/FINDINGS

Demographic Data for Principals of Agricultural Education Programs

The principals of the agricultural education programs ranged between 32 and 62 years of age and averaged 47.46 years old. The administrators' tenure as principals ranged from one to 28 years with a mean of 10.42 years. Approximately 42% (n = 54) of the administrators took at least one vocational agriculture course in high school and 18.95% (n = 25) of those taking agricultural courses received four or more credits in agricultural education. Sixty-five percent (n = 84) of the administrators took at least one vocational education course other than vocational agriculture during high school. Administrators who had been vocational education teachers in areas other than agriculture accounted for 7.58% (n = 10) of the sample and 7.58% (n = 10) of the principals were former vocational agriculture teachers. An average of 3.04 visits to student SAE programs were made during the 1992-1993 academic year by the respondents. Fourteen percent (n = 18) of the administrators had attended at least one State FFA Convention and 3.04% (n = 2) had attended at least one National FFA Convention during the time period from 1987-1992. Eighty percent (n = 97) of the principals indicated they would attend state and national conventions and participate in SAE visits if they were invited by their vocational agriculture teachers to do so. Approximately 74% (n = 98) of the principals classified their schools as being in a rural setting, however, approximately 30% (n = 38) indicated that 1000 or more students were enrolled at their schools.

Demographic Data for Principals of Technology Education Programs

The principals of the technology education programs ranged between 32 and 59 years of age and averaged 47.20 years old. The administrators' tenure as principals ranged from one to 29 years with a mean of 11.34 years. Approximately 54% (n = 58) of the administrators took at least one technology education or industrial arts education course in high school but only 5.56% (n = 6) of those taking these courses indicated they had received four or more credits in either technology education or industrial arts education. Approximately 45% (n = 48) of the principals reported they took at least one vocational education course other than technology education or industrial arts education during high school. Administrators who had been vocational education teachers in areas other than technology education or industrial arts education accounted for 7.14% (n = 8) of the sample and 7.14% (n = 8) of the principals were also former technology education or industrial arts education teachers. Approximately seven percent (n = 8) of the administrators had attended at least one State TSA Convention and 1.79% (n = 2) had attended at least one National FFA Convention during the time period from 1987-1992. Approximately 78% (n = 97) of the principals indicated they would attend state and national conventions if they were invited by their technology education teachers to do so. Approximately 72% (n = 76) of the principals classified their schools as being in a rural

setting, however, 25% (n = 28) indicated that 1000 or more students were enrolled at their schools.

Attitudes of Administrators Concerning Agricultural Education Curriculum Issues

Research objective one, to determine the attitudes of building level administrators in North Carolina concerning their agricultural education program curriculum issues was addressed by ten statements designed to obtain the attitudinal data. The administrators were asked to rate each of the statements on the data collection instrument according to the following scale: 1 = Strongly Disagree (Respondent disagreed with the statement without exception); 2 = Disagree (Respondent disagreed with the statement, but was not 100% opposed to the statement); 3 = Slightly Disagree (Respondent disagreed with some elements of the statement, but not the whole statement); 4 = Slightly Agree (Respondent agreed with some elements of the statement, but not the whole statement); 5 = Agree (Respondent agreed with the statement, but not 100% supportive of the statement); or 6 = Strongly Agree (Respondent agreed with the statement without exception). Descriptive statistics, means, standard deviations, and frequencies were used to describe the attitudes registered by the principals for each of the statements.

The principals indicated that horticulture courses (M = 5.09, SD = 0.74) were the most appropriate agriculture courses to included in a contemporary high school curriculum. However, the principals agreed that all the agricultural education course offerings currently being offered in the public schools of North Carolina should be included in a contemporary high school curriculum. The principals also indicated they agreed that "the high school agricultural education curriculum should provide students with a mix of occupational specific skills which are needed to get good jobs or to pursue further training at the post-secondary level" (M = 5.22, SD = 0.93) and that "the high school academic and agricultural education curricula should be integrated so students are well equipped with fundamental academic skills which are enhanced through applied activities in agricultural education courses" (M = 5.18, SD = 1.12). However, they slightly disagreed (M = 2.68, SD = 1.62) with the recommendation of requiring all students to complete at least one agriculture course in order to meet graduation requirements.

The principals agreed (M = 4.59, SD = 0.87) that a substantial amount of international agriculture should be infused in the high school agricultural education curriculum but only slightly agreed (M = 3.56, SD = 1.42) that students should be encouraged to enroll in programs requiring work experience, like the Agricultural Cooperative program. However, the principals also indicated they agreed (M = 5.08, SD = 1.08) that agricultural education courses should be taught by certified agricultural education teachers.

The principals reported they agreed (M = 5.05, SD = 0.77) that the articulation of agricultural education training between secondary and post-secondary institutions should be increased and they agreed (M = 5.00, SD = 1.11) that agricultural education programs should be fully articulated with community college programs through a TECH-PREP agreement. However, the principals disagreed (M = 2.33, SD = 1.08) with the statement " agricultural education courses should be moved from high schools to community colleges."

Attitudes of Administrators Concerning Technology Education Curriculum Issues

Research objective two, to determine the attitudes of building level administrators in North Carolina concerning their technology education program curriculum issues, was addressed by ten statements designed to obtain the attitudinal data. The principals indicated that Fundamentals of Technology courses (M = 5.20, SD = 0.80) were the most appropriate

technology courses to included in a contemporary high school curriculum. However, the principals agreed that all the technology education course offerings currently being offered in the public schools of North Carolina should be included in a contemporary high school curriculum. The administrators indicated they slightly disagreed (M = 3.05, SD = 1.56) with the statement "technology education teachers conducting programs which focus on woodworking and metal working is an out-of-date concept."

The principals also indicated they agreed that the high school technology education curriculum should provide students with a mix of occupational specific skills which are needed to get good jobs or to pursue further training at the post-secondary level" (M = 5.22, SD = 0.79) and that "the high school academic and technology education curricula should be integrated so students are well equipped with fundamental academic skills which are enhanced through applied activities in technology education courses" (M = 5.20, SD = 0.99). The principals slightly agreed (M = 4.20, SD = 1.45) with the recommendation of requiring all students to complete at least one technology education course in order to meet graduation requirements.

The principals only slightly agreed (M = 3.61, SD = 1.45) that students should be encouraged to enroll in programs requiring work experience, like Cooperative Work Experience programs. However, the principals also indicated they agreed (M = 4.64, SD = 1.31) that technology education courses should be taught by certified technology education teachers.

The principals reported they agreed (M = 5.25, SD = 0.81) that articulation of technology education training between secondary and post-secondary institutions should be increased and they agreed (M = 5.04, SD = 0.91) that technology education programs should be fully articulated with community college programs through TECH-PREP agreements. However, the principals disagreed (M = 2.32, SD = 1.30) with the statement " technology education courses should be moved from high schools to community colleges."

Comparison of Attitudes Concerning Agricultural Education and Technology Education Program Curriculum Issues by Building Level Administrators

Research objective three of the study was to determine if the attitudes held by school administrators in North Carolina differed between their local agricultural education and technology education programs toward curriculum issues. This objective was addressed by examining eight parallel statements which appeared on the data collection instruments for both program areas. The statements were: 1. Curriculum should be revised to provide skills needed to get good jobs or to pursue further training. 2. Academic and vocational education curricula should be integrated to enhance fundamental academic skills through applied activities in vocational education courses. 3. Articulation of vocational education training between secondary and post-secondary institutions should be increased. 4. All students should complete at least one course to meet graduation requirements. 5. Students should be encouraged to enroll in work experience programs while attending high school. 6. Courses should be moved from high schools to community colleges. 7. Courses should be taught by certified vocational education teachers. 8. Programs should be fully articulated with community college programs through TECH-PREP agreements.

Multivariate analyses of variance (MANOVA) was used to analyze the data for the eight items to determine if the attitudes toward curriculum issues held by school administrators in North Carolina differed between their local agricultural education and technology education programs. The Hotelling-Lawley Trace statistic, which is appropriate for two independent samples, and one-way analyses of variance (ANOVA) were used to determine which items were significantly different among administrators.

Significant differences (F = 10.758, p = .0001) were found between the attitudes of the principals of agricultural education and technology education programs using Hotelling-Lawley Trace statistics. One-way ANOVAs were used to determine which of the eight statements reflected the differences between the principals of the two programs. The principals of the two programs held significantly different attitudes toward two of the statements. The principals of the technology education programs indicated they slightly agreed with the concept that all students should complete at least one technology education course to meet high school graduation requirements while the principals of the agricultural education programs slightly disagreed that an agricultural education course should be required for high school graduation. It was also discovered that while both groups of principals agreed that the agricultural education and technology education course should be taught by certified agricultural education and technology education teachers, the attitudes expressed by the principals of the agricultural education programs was statistically higher than that expressed by the principals of the technology education programs.

CONCLUSIONS AND RECOMMENDATIONS

The following conclusions were formulated as a result of the findings of this study:

1. In general, principals were very supportive of both the agricultural education and technology education programs being offered in the public schools of North Carolina. However, the principals appeared to be slightly more supportive of the technology education programs than they were of the agricultural education programs.

2. The high school agricultural education and technology education curricula should provide program graduates with the necessary occupational specific skills needed to get good jobs and/or pursue further training at the post-secondary level.

3. Agricultural education and technology education curricula should be integrated with the high school academic curricula so graduates will be well equipped with fundamental academic skills which have been enhanced through applied activities in the agricultural education and technology education courses.

4. The articulation of agricultural education and technology education training between secondary and post-secondary institutions should be increased and secondary agricultural education and technology education programs should be fully articulated with community college programs through TECH-PREP agreements.

5. The current agricultural education course offerings are appropriate for the curriculum of contemporary high schools and horticulture is considered to be the best of the agricultural education courses currently being offered.

6. The current technology education course offerings are appropriate for the curriculum of contemporary high schools and Fundamentals of Technology and Communications Systems are considered to be the best of the technology education courses currently being offered.

7. Agricultural education and technology education courses should be taught by fully certified agricultural education and technology education teachers.

8. Agricultural education and technology education courses should remain at the secondary level and **not** be moved to the community colleges.

Based on the findings and conclusions of this study, the following recommendations are suggested:

1. Local evaluations should be done of agricultural education programs to determine the strengths and weaknesses of the programs. It is recommended that the agriculture teachers provide the leadership for the local program evaluations but principals should have input in the evaluation process so their concerns can be obtained. Once the evaluations are completed, the agriculture teachers should solicit the assistance from their principals and local directors in addressing identified program weaknesses.

2. Local directors should work with local principals in establishing teams consisting of agriculture teachers, technology teachers, and academic teachers to identify opportunities for increasing the instructional content about agriculture and technology in academic curricula and for increasing science into the agriculture and technology curricula.

3. If not in place, fully articulated TECH-PREP agreements should be developed for all agricultural education and technology education programs.

4. Local directors of vocational education should monitor the hiring of agricultural education and technology education teachers and insist, where possible, that only fully certified teachers be hired by their local school systems.

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THE EFFECT OF AN OUTWARD BOUND COURSE ON TWO DIMENSIONS OF TEACHERS' SENSE OF EFFICACY

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by

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Abstract

The Effects of an Outward Bound Course
on Two Dimensions of Teachers' Sense of Efficacy

A teacher's sense of efficacy influences how a teacher implements instruction, develops relationships with students, and manages the classroom. Teachers sense of efficacy has been shown to have at least two independent dimensions: sense of teaching efficacy and sense of personal teaching efficacy. This researcher posits that completion of an Outward Bound course can positively influence a teacher's sense of efficacy.

A naturalistic research method, combining the Teacher Efficacy Scale as a pretest/posttest, field participant/observation by the researcher, an open-ended survey, and classroom observations of subjects, was utilized to test the hypotheses of this research. Three Outward Bound courses were selected for this research. Subjects participating in this study represented a broad spectrum of curriculum areas, ages, educational backgrounds, and personal goals.

Analysis of the pretest/posttest, utilizing a t-test for correlated samples, indicated that female subjects reported a significant increase in both dimensions of teachers sense of efficacy. The statistical findings were confirmed by the field observations, classroom observations and open-ended surveys. The results of this study indicate that an Outward Bound Educators' Course can have a positive effect on both dimensions of a female teacher's sense of efficacy.

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INTRODUCTION

Criticizing public education has long been a minor industry in the United States, but this criticism reached a new level of intensity in the last decade. During this period, Albert Adams (1985), reported that nearly fifty commissions had studied the processes and outcomes of public education. The most notable of these reports, A Nation At Risk, resulted in a new awareness of the critical issues facing public education. According to Adams (1985), Glenn (1988), Stedman and Smith (1985), Ashton and Webb (1986) and Singer (1985), the majority of these reports called for quantitative changes in the educational process: more hours of schooling, more testing, more certification requirements for teachers, more textbooks, more discipline, more basics, and more tax dollars. At the same time most of the reports ignored teaching methods, classroom configuration, and support for students and teachers. Adams (1985) wrote, "A Nation At Risk ignores the complexities of teaching and learning in the 1980's and does little more than call for enshrinement of business as usual" (p. 3). Orlich (1989), in an article for Phi Delta Kappen, wrote that the reforms have failed because they have had no profound impact on instruction. While the great debate over public education continues, it is only recently that attention is being given to the school environment where learning takes place.

Ashton and Webb (1986) found that it is the learning environment that is critical in determining the outcomes of the learning process. Mulhern (1991) wrote that boards of education, administrators and teachers must work together to become as skilled as possible in the art and science of teaching and learning. Mulhern believes that improving and refining expertise requires some risk taking on the part of those involved and the environment must promote an openness to try a variety of methods that may be less familiar or at which teachers are less expert.

Self-Efficacy: Bandura (1986) concluded that self-efficacy is a cognitive process involving personal judgments of how well one can execute a particular course of action required to deal with a prospective situation. These judgments influence human functioning as to whether or not to engage in the activity, how much effort apply, and how long to persevere toward desired conclusions. To some degree, self-efficacy indicates an individuals of tolerance of taking risks.

Teachers' Sense of Efficacy: A teacher's sense of efficacy is a critical variable in the educational process. Ashton and Webb (1986) reported that teaching efficacy expectations influence teachers' thoughts and feelings, their choice of activities, how they interact with students, the amount of effort that they expend, and their persistence in the face of obstacles. Each of these factors requires some risk taking on the part of the teacher and each have been shown to have a direct relationship to student achievement. Researchers support the belief that a strong teacher's sense of efficacy can result in greater levels of student success.

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A teacher's sense of efficacy is defined by Gibson and Dembo (1985) as "the extent to which teachers believe they can affect student learning" (p.173). Ashton and Webb (1986) reported that there is a positive relationship between a teacher's expectations for student achievement and actual student achievement. Further, Ashton and Webb (1986) wrote, that teacher expectations are strongly influenced by their own sense of efficacy. Ashton and Webb (1986) explained that if teachers expect students to work hard and do well, the students will. When students do well, the teacher's sense of efficacy is enhanced--expecting more from students. Conversely, teachers who anticipate that students will do poorly will have that prophesy fulfilled. When this occurs, the teacher's sense of efficacy will be diminished and less will be expected and less will be realized.

Dimensions of Teachers' Sense of Efficacy: Ashton and Webb (1986) divided a teacher's sense of efficacy into two dimensions: teacher's sense of teaching efficacy and teacher's sense of personal teaching efficacy. Ashton and Webb (1986) defined teachers' sense of teaching efficacy as a teacher's expectations of how the educational process, given the existing school and social environment, can influence student achievement. Teachers' sense of personal teaching efficacy is defined as how an individual teacher perceives his/her own ability to follow a particular course of action that will result in high levels of student achievement. In essence, personal teaching efficacy is how a teacher rates his/her own teaching competence.

Outward Bound: The Outward Bound mission statement describes the programs purpose as follows: "to develop respect for self, care for others, responsibility to the community, and sensitivity to the environment. The Outward Bound process assumes that learning and understanding take place when people engage in and reflect upon experiences in challenging environments in which they must make choices, take responsible action, acquire new skills, and work with others." Researchers have shown that Outward Bound courses have a positive effect on the same human behaviors that have been identified by efficacy researchers as those that are influenced by an individuals sense of efficacy. Further, the Outward Bound paradigm utilizes performance accomplishments as its primary teaching method. Performance accomplishment has been found by Bandura (1986) to be the strongest information provider to strengthening self efficacy.

This researcher posits that in order to enhance student achievement, teachers need to be willing to assume reasonable risks through the use of new and emerging methods of teaching and learning, develop caring relationships with students, and manage the classroom in a fair and equitable manner. Teachers need to know and feel that they are not operating in isolation, providing instruction only in their particular area of expertise and without support from their colleagues. The purpose of this study is to identify whether an Outward Bound course has an effect on a teachers' sense of efficacy and how the participants believe the course has affected their professional and personal lives.

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METHOD

The purpose of this study is to determine if an Outward Bound Educators' Course has an effect on teachers' sense of efficacy. Ashton and Webb (1982) developed a model for teachers' sense of efficacy based on Bandura's conceptualization of self-efficacy. Ashton and Webb (1986) separated teachers' sense of efficacy into two dimensions: sense of teaching efficacy and sense of personal teaching efficacy. From these two dimensions the following null hypotheses were postulated:

H1: There will be no significant difference in teachers' mean gain scores on a measure of teaching efficacy after their completion of an Outward Bound Educators' Course.

H1.1: There will be no significant difference in female teachers' mean gain scores on a measure of teaching efficacy after their completion of an Outward Bound Educators Course.

H1.2: There will be no significant difference in male teachers' mean gain scores on a measure of teaching efficacy after their completion of an Outward Bound Educators' Course.

H2: There will be no significant difference in teachers' mean gain scores on a measure of personal teaching efficacy after their completion of an Outward Bound Educators' Course.

H2.1: There will be no significant difference in female teachers' mean gain scores on a measure of personal teaching efficacy after their completion of an Outward Bound Educators' Course.

H2.2: There will be no significant difference in male teachers' mean gain scores on a measure of personal teaching efficacy after completing an Outward Bound Educators' Course.

H3: There will be no significant difference between male and female teachers' mean gain scores on a measure of teaching efficacy after their completion of an Outward Bound Educators' Course.

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H4: There will be no significant difference between male and female teachers' mean gain scores on a measure of personal teaching efficacy after their completion of an Outward Bound Educators' Course.

Treatment: Two Outward Bound Educators' Courses have been selected for this research: (1) a 9-day Educators' Course at North Carolina Outward Bound School (NCOBS); and (2) a 7 day Educators' Backpacking Course at Hurricane Island Outward Bound School (HIOBS). The activities of both courses included a backpacking expedition, rock climbing, ropes course, marathon run and service project.

Population/Sample: The subjects for this research were all volunteers who paid for the experience.

Instrumentation: The Teacher Efficacy Scale, developed by Gibson and Dembo, was used as both the pre- and posttest. A 65 item Likert type questionnaire was developed for this research. The 16 items from the Gibson and Dembo study were randomly distributed through the instrument. The additional 49 items were developed by the researcher in an effort to identify changes in teachers' orientation toward intructional management strategies, classroom management strategies, and relationships with students.

Data Collection: A naturalistic research design was utilized to test the hypotheses of this research. Data collection relied on the one group pretest/posttest statistical design, combined with participant observation in the field, an open-ended survey, and observation of the teachers in their classrooms several months following the course.

Pretest/Posttest Administration: The pretest was administered by mail to the participants approximately 30 days prior to the start of the course. A self-addressed, stamped envelope was included for the convenience of the respondent. Approximately one week after the mailing, each participant was telephoned as a reminder to complete and return the instrument. The timing of 30 days prior to the course was selected to avoid the possibility of pre-course anxiety that might affect teachers' responses. An identical posttest instrument was mailed to each course completer four to six months following the course. A four-to six-month interval between the completion of the course and the posttest was allowed to avoid skewed results due to post group euphoria present at the end of a course.

Participant Observer: In addition to the instrument, a participant observer was utilized on each course to observe and interview the participants during the course. The observer participated in all the activities of the courses.

Classroom Observations: Approximately four to six months following each course, the researcher traveled to the work places of selected subjects and observed them in their teaching duties. Those observed were selected based on their geographical proximity to one another and the researcher. A checklist of observable teacher behaviors, developed from the research of Ashton and Webb (1986), was used to identify high and low efficacy behaviors of the teachers.

Statistical Tests: This study utilized a one group pretest/posttest design to measure the effect of the independent variable, the Outward Bound Course, on the dependent variables, sense of teaching efficacy and sense of personal teaching efficacy. Data collected by the Teacher Efficacy Scale for Hypotheses #1, 1.1, 1.2, 2, 2.1, and 2.2 were analyzed through the use of a t-test for correlated means. Hypotheses #3 and #4 were analyzed through the use of analysis of covariance.

FINDINGS

Description of the Sample: Within several weeks following each course, participants were asked to complete an open-ended survey that was designed to collect demographic data about the subjects and their experiences. The results of this survey indicated that the subjects represented a broad cross section of curriculum areas, grade levels, teaching assignments, educational backgrounds and ages. The subjects expressed varying reasons for their attendance. Some reasons were personal, while other reasons were professional. Several wished to be challenged physically and mentally, others viewed the experience as a rite of passage following or preceding a significant event in their lives. One hundred percent of the NCOBS Educators' Course participants and 90 percent of the HIOBS Educators' Course participants completed both the pre- and posttest. The total subjects for this study was $N = 14$. This yielded $N = 7$ females and $N = 7$ males.

Teachers attending the Outward Bound Educators' Courses were all volunteers. In an effort to determine if these subjects differed in their sense of teaching efficacy or personal teaching efficacy from the general population of teachers, a sample of teachers was drawn from a New Jersey high school. The teachers at this high school were asked to complete the identical instrument used as a pretest for the Outward Bound subjects. The scores for the New Jersey teachers were compared with the pretest scores for the Outward Bound Educators' Courses' samples through the use of a two-sample t-test for pooled variances. The results of these tests indicate that there is no significant difference in levels of teaching efficacy or personal teaching efficacy between the subjects who volunteered to attend either of the Outward Bound Courses and a group of teachers unfamiliar with Outward Bound or the purpose of this study. Thus, it is concluded that the measures of personal teaching efficacy and teaching efficacy are independent of

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volunteering for an Outward Bound Course.

Hypotheses Testing: The hypotheses were developed to test what effect the Outward Bound Educators' Courses the independent variable, may have on teachers' sense of teaching efficacy and teachers' sense of personal teaching efficacy, the dependent variables. The following are the results of those tests:

Hypothesis H1: As predicted, participation in an Outward Bound Educators' Course did not significantly change the teachers' sense of teaching efficacy. The analysis failed to reject null hypothesis H1. (N = 14, pretest M = 21.29, posttest M = 22.93, r = 0.651, pretest SD = 5.03, posttest SD = 7.01, pretest SE = 1.34, posttest SE = 1.87, $t(13)$ = 1.15, $p>.05$. See Table 1 for data for Hypothesis H1.

Hypothesis H1.1: Analysis of the mean gain scores of female teachers for the dimension of teaching efficacy reject the null hypothesis. The following data were derived from the statistical analyses of the pretests and posttest of the female teachers participating in the Outward Bound Educators' Courses: (N = 7, pretest M = 21.43, posttest M = 26.14, r = .763, pretest SD 4.35, posttest SD 7.15, pretest SE 1.65, posttest SE 2.70, $t(6)$ = 2.63, $p<.05$). See Table 1 for data for Hypothesis H1.1.

Hypothesis H1.2: When the males' mean gain scores were analyzed separately, the results failed to reject the null hypothesis for the dimension of teaching efficacy. The following data were derived from the statistical analysis of the pretest and posttest scores of male teachers participating in the Outward Bound Educators' Courses: (N = 7, pretest M = 21.14, posttest M = 19.71, r = .744, pretest SD 5.98, posttest SD 5.59, pretest SE 2.26, posttest SE 2.11 , $t(6)$ = .91, $p>.05$. See Table 1 see Table 1 for data for Hypothesis H2.1.

Table 1
Sense of Teaching Efficacy

		Pretest			Posttest					
Hyp.#	N	Mean	SD	SE	Mean	SD	SE	r	d	t
H1	14	21.29	5.03	1.34	22.93	7.01	1.87	.651	13	-1.15
H1.1	7	21.43	4.35	1.65	26.14	7.15	2.70	.763	6	2.63*
H1.2	7	21.14	5.98	2.26	19.17	5.59	2.11	.744	6	.91

* $p<.05$

Hypothesis H2: When the mean gain scores for the subjects participating in the Outward Bound Educators' Courses were analyzed for the dimension of personal teaching efficacy, the null hypothesis was

rejected. The statistical analysis of mean gain scores on a measure of personal teaching efficacy indicates N = 14, pretest M = 39.29, posttest M = 42.86, r = .71, pretest SD 4.87, posttest SD 5.26, pretest SE 1.3, posttest SE 1.41, t(13) = -3.40, p < .01. See Table 2 for data for Hypothesis H2.

Hypothesis H2.1: Analysis of the data for personal teaching efficacy, for female teachers participating on an Outward Bound Educators' course, rejected the null hypothesis. The following data were derived from the analysis of the pretests and posttests of female teachers participating in the Outward Bound Educators' Courses: (N = 7, pretest M = 39.13, posttest M = 45.14, r = .861, pretest SD = 4.08, posttest SD 4.49, pretest SE 1.54, posttest SE 1.70, t(6) = -6.56, p< .001. These data indicate that an Outward Bound Educators' Course has a significant effect on a female teachers' sense of personal teaching efficacy. See Table 2 for data for Hypothesis H2.1.

Hypothesis H2.2: When the data from the male subjects from the Outward Bound Educators' Courses were analyzed for the dimension of sense of personal teaching efficacy, the results failed to reject the null hypothesis. The statistical analysis of the data derived from the male subjects pretests and posttests in the Outward Bound Educators' Courses is as follows: (N) = 7, pretest M = 39.14, posttest M = 40.57, r = .739, pretest SD 5.90., posttest SD 5.26, pretest SE 2.23, posttest SE 1.99, t(6) = -.93 , p>.05). See Table 2 for data for Hypothesis 2.2.

Table 2
Sense of Personal Teaching Efficacy

Pretest					Posttest					
Hyp.#	N	Mean	SD	SE	Mean	SD	SE	r	df	t
H2	14	39.29	4.87	1.30	42.86	5.26	1.41	.71	13	-3.40**
H2.1	7	39.43	4.08	1.54	45.14	4.49	1.70	.861	6	-6.56***
H2.2	7	39.14	5.90	2.23	40.57	5.26	1.99	.739	6	-.93

**p<.01
***p<.001

Hypotheses 3 and 4 were designed to identify gender differences that resulted from completion of the Outward Bound Educators' Courses. The pretest/posttest means were subjected to an analysis of covariance to determine whether the courses had a significant effect on the participants' sense of efficacy. Analysis included controlling for base line differences between the sexes by using the pretest as a covariate.

Hypothesis H3: The null hypothesis, stating that there would be no significant difference between male and female teachers' mean gain

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scores for teaching efficacy, was rejected. The mean posttest score was 26.14 for females and 19.71 for males. The analysis of covariance indicated a significant difference between the genders: $F(1, 11) = 6.30$, $p<.029$. See Table 3 for data for Hypothesis H3.

Table 3
Gender Differences - Sense of Teaching Efficacy

Source of Variation	Sum of Squares	df	Mean Square	F	p
Covariates	251.42	1	251.42	11.39	0.006
Between	139.12	1	139.12	6.30	0.029
Within	242.87	11	22.08		
Total	639.93	13			

Hypothesis H4: The null hypothesis, stating that there would be no significant difference between male and female teachers' mean gain scores for personal teaching efficacy, was rejected. Female posttest mean scores for personal teaching efficacy were 45.14 and male posttest mean scores were 40.58. These posttest means yielded the following statistical data: $F(1, 11) = 6.51$, $p< .027$. See table 4 for data for Hypothesis 3.1.

Table 4
Gender Differences - Sense of Personal Teaching Efficacy

Source of Variation	Sum of Squares	df	Mean Square	F	p
Covariates	174.43	1	174.43	17.11	0.002
Between	66.37	1	66.37	6.51	0.027
Within	112.14	11	10.19		
Total	359.71	13			

Analysis of these data indicates that female teachers, who reported a significant increase in posttest scores for both dimensions of teachers' sense of efficacy, also reported a significant increase in posttest scores over their male counterparts who completed the same Outward Bound Educators' Courses.

Discussion of Questionnaire Items: This research employed a 65-item Likert type questionnaire, as a pretest/posttest, to assess the effect an Outward Bound experience had on the subjects. Of the 65 items, 16 were items Gibson and Dembo (1984) found to reliably represent teachers' sense of efficacy. The remaining 49 items were developed by the researcher in an effort to further identify changes in teacher

orientation toward instructional management strategies, classroom management strategies, and relationships with students. These 49 items were not a part of the statistical analysis previously reported and were not subjected to tests of reliability or validity. They were used as an additional method, along with field and classroom observations, to interpret the statistical findings previously reported.

The analysis of the 49 items was completed by calculating the difference of the mean score for each item on the pretest with the mean score of the corresponding item on the posttest. Subjects tended to report scores that indicated a movement toward a higher teachers' sense of efficacy. The subjects reported a positive direction (toward a higher sense of efficacy) on 37 of the 49 items and reported no change on 2 of the remaining 12 items. These results appear to indicate that participation in a Outward Bound Educators' Course may strengthen behaviors and beliefs about teaching that are commensurate with a higher teachers' sense of efficacy. These findings are consistent with and support the results found under the statistical analysis of this study.

Observations and Survey: Field observations, classroom observations, and the open ended survey proved to be valuable in collecting data that supported the statistical results of the study.

Field Observation: The researcher acted as a participant observer on both Outward Bound Educators' Courses. The observations while on course indicated that female participants had gaining more from the experience than did the male participants.

Classroom Observations: Approximately four to six months following the courses, the researcher traveled to selected participants' schools to observe them in their teaching assignments. Participants were selected for classroom observation based on their geographical proximity to one another and the researcher. Results of the classroom observations indicate that all teachers observed tend to exhibit many of the behaviors that Ashton and Webb identified as those of high efficacy teachers. It is not possible to definitively state that these behaviors were a result of the Outward Bound experience as teachers were not observed prior to the course.

Open-ended Survey: The open-ended survey yielded many personal thoughts and reactions of the subjects following the course. These reactions offered by the participants also support the statistical results of this research.

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SUMMARY & CONCLUSIONS

This research examined the effect an Outward Bound Educators' Course had on two dimensions of teachers' sense of efficacy. Researchers have found that following an Outward Bound Course, teachers tend to transfer the experiential curriculum into their classrooms and relate more sensitively and humanely to their students and colleagues. These teachers gain a greater level of confidence in themselves and are more willing to reveal their own strengths and weaknesses while, at the same time, growing stricter in their expectations for student achievement. All of these behaviors and beliefs correspond to the behaviors and beliefs identified by Ashton and Webb (1986) as those associated with a high efficacy teacher. Teachers with a high sense of efficacy have been shown to be more effective in the classroom than their low efficacy counterparts.

Sense of Teaching Efficacy: The data collected from the pretests/posttests indicate that an Outward Bound Educators' Course had no significant effect on a teacher's sense of teaching efficacy. However, when the data were analyzed by gender, female subjects achieved significance at the $p<.05$ level for the dimension of sense of teaching efficacy. Field observations and open-ended survey responses tend to confirm these findings.

Sense of Personal Teaching Efficacy: Pretest/posttest data for the dimension of sense of personal teaching efficacy rejected the null hypothesis. Outward Bound Educators' Courses subjects achieved significance at the $p<.01$ level for the dimension of personal teaching efficacy. As with the dimension of teaching efficacy, further comparisons of the statistical data by gender indicated that females scores increased so significantly ($p<.001$) that, when combined with the male scores for this dimension, these scores brought the entire sample beyond the $p<.01$ level. Males did not achieve significance for the dimension of personal teaching efficacy.

Discussion

Reform movements of the 1980's and 1990's focused, for the most part, on quantitative inputs and outcomes to solve the perceived problems of public education. Few argue that the American system of education needs improvement in order for the schools to meet the needs of students entering a dynamic world. Absent from the majority of these reports is discussion of the classroom environment where learning takes place. This researcher posits that it is, indeed, the interaction between teacher and student that results in learning.

The empowered student should be the goal of public education. One who is capable of applying what he/she have learned, is able to analyze situations and synthesize data to solve problems, is capable of thinking critically and is prepared to learn throughout his/her life as times and needs change. The student who possesses these skills will be well

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prepared for the future; while the student prepared with facts and figures will be prepared for a world that no longer exists.

One may conclude from the results of this research that female teachers who complete an Outward Bound Educators' Course will be empowered to take additional risks in the classroom. The use of new instructional methods and more caring relationships with students will make the educational experience more enjoyable for both the student and the teacher. The results of this research indicate that female teachers developed a heightened teachers sense of efficacy following their Outward Bound Educators' Course, the question remains what effect will this change have on the students in these teachers classrooms. Will the changes in teachers' behaviors result in higher academic test scores to please the reformers? If so, will educational institutions focus on the real need of education: to develop the empowered student? Will the new methods the teacher uses--problem-solving, collaboration, cooperative learning, and decision making--force the students out of their "comfort zones" and empower and excite them into accepting more responsibility for their own learning? What of the school administrators who define education in terms of discipline and control? How will they react to the use of new methods? Additional research needs to be conducted to assess what changes students make when their teachers return from an Outward Bound experience.

Gender Differences: The statistical results indicated that female teachers participating on the Outward Bound Educators' Courses increased significantly for both dimensions of teachers' efficacy. At the same time, the male teachers gained only slightly for the sense of personal teaching efficacy and declined slightly for the sense of teaching efficacy. There are several possible explanations for these differences. First, many of the male teachers had been exposed to ropes courses and rock climbing prior to coming to Outward Bound. By having previous experience, either through military service or through their own educational process, males appeared less threatened by the course than females. Second, the male participants were not intimidated by the physical requirements of carrying the heavy packs. Female teachers came to the course more tentative about their ability to keep up with the rest of the group. Thus, when the females learned that they were capable of maintaining the pace and of meeting their full share of the patrol's needs, their efficacy was strengthened through the experience.

Males, on the other hand, appeared humbled by watching the females perform as they did. The Outward Bound process tended to remove the "macho" attitude and develop an acceptance and understanding of the need for compassion and understanding within the group. Males were also exposed to the group process and the opportunity to share their feelings in a safe environment free from judgment or ridicule. The males gained a greater appreciation of others and others' needs while the females gained a greater appreciation of their own abilities and capabilities.

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Locus of Control: Rotter's (1982) research into locus of control indicates that a person's expectancy of outcomes lies somewhere on a continuum that extends from internal to external. Those people who tend to have an internal locus of control believe that they have the ability to control life's events. People who have an external locus of control believe that life's events are the result of external factors such as luck, chance or fate.

According to Pervin (1984), Rotter's research into locus of control indicates that males tend to be more internally controlled, while females appear to be more externally controlled. Females, who tend to be more external in their control, showed significant increases in mean gain scores for both dimensions of teachers' sense of efficacy. This finding is consistent with the theory that external locus of control is less stable than internal locus of control. This finding is confirmed by the field observations, open-ended surveys, and classroom observations. Males, who tend to be more internal, thus more stable in their locus of control, showed little statistical change as a result of the experience. Again, this is consistent with the locus of control theory. Bertolami (1981) concluded that as a result of participation in a wilderness education program, students' felt more able to exert control over their own lives. Bertolami found that both males and females decreased in their perception that events were controlled by powerful others or chance. Bertolami attributed these changes to successful performance accomplishments by the students of challenging activities in the wilderness, in a supportive group environment.

Transference: How can efficacy, developed through an Outward Bound experience, transfer to a teacher's sense of efficacy in the classroom? A possible explanation lies in the intensity of the activities used by the instructors in the Outward Bound program and the paradigm used to reinforce the experience. Many Outward Bound activities cause the participant to reach deep within him/herself to find the extra strength or courage to complete the task. Outward Bound instructors frame the activity prior to the experience, offer support during the experience and debrief the activity following the experience in an emotionally-safe environment. Instructors help the student understand why he/she was able to succeed at a particular activity. It is the linkage of the success (what actually happened) with the knowledge of accomplishment that is so meaningful in the process.

In addition, Outward Bound instructors become role models for their students. Instructors model behaviors similar to those identified by Ashton and Webb (1986) as those indicative of high efficacy teachers. Instructors can be described as warm and caring individuals who form strong relationships with their students. They act as facilitators, teaching the necessary skills to insure a safe experience, then stepping back and encouraging the patrol to apply the skills in a real situation. The instructors show a genuine interest in the students' needs and problems and encourage open discussion as a way to reinforce the lesson.

Multicultural Effects: Ashton and Webb (1986) reported that a student's socio-economic status and cultural background influence a teacher's beliefs about that student's ability to learn. These beliefs, in turn, influence the teacher's selection of instructional strategies, classroom management systems, and how he/she relates to the student. Teachers with a low sense of teaching efficacy tend to believe that students with low socio-economic standings or who are from minority cultures are either unable or unwilling to learn. As a result, these teachers reduce their efforts and expectations and adopt behaviors associated with low efficacy beliefs.

Outward Bound courses stress to participants that they are a crew, not passengers. The Outward Bound proposal (1992) stated that, "When students are genuinely needed in a group, they respond with higher levels of commitment and performance" (p. 7). Further, the Outward Bound curriculum is based on the belief that everyone can succeed. The sequential cycle of the Outward Bound paradigm allows the group to set ambitious, yet realistic, goals for their course. The instructor's role shifts from that of ensuring students have the requisite skills necessary to successfully complete the challenge to that of facilitating the process and the safety of the expedition. The basic philosophical belief that all students are capable of learning and succeeding has guided the Outward Bound process since the early days of Kurt Hahn at Aberdovy, Whales.

Teacher Isolationism: Schools may be unique in the work environment. In other industries people work in teams, addressing problems and finding solutions toward a common goal. Teachers, for the most part, work as individuals isolated from their colleagues. They are often left to determine their own course of action and to solve their own problems. Administrators might try to address this problem by altering the structures that create this isolation. Developing the master schedule is, at best, a difficult task. The schedule should not be viewed as the end product of administrators' toil. The schedule should be designed to facilitate learning, not just to match students, subjects, rooms, and teachers.

Summary

One must look at the entire ecological environment of the school to envision the impact that the educational process has on teachers' motivation and their ability to maintain high expectations. One must look to the psychological conditions under which teachers labor. The inherent isolationism of the profession; the lack of recognition and support from the administration and parents; and the feelings of powerlessness that teachers experience are all factors that contribute to the reduction of a teachers' sense of efficacy. These and other aspects of the environment should be addressed in order to insure that teachers develop and maintain a high sense of efficacy.

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Admittedly, a teacher's sense of efficacy is but one variable in the process called education. Teachers with a high sense of efficacy tend to assume greater risks through the methods they utilize and the relationships they develop with students. Additionally, they persevere longer to achieve their objective than do their low efficacy counterparts. Ashton and Webb (1986) have shown that these behavioral differences affect student achievement.

The reformers, administrators, legislators and state departments of education, might consider the expertise the teacher can bring to the reform process. Teachers should be considered an integral part of the paradigm when the reformers call for change. Briggs (1989) reported that top down reform is not effective. Learning takes place when the classroom door closes and the lesson begins. The interaction of the student and the teacher, with the support of parents, colleagues, administrators and the community, brings about learning. The better prepared, both technically and psychologically, the teacher is for the process, the more likely learning will occur.

Leaders in school administrations, colleges and graduate schools of education might consider the importance of teachers' sense of efficacy when developing and presenting in-service and pre-service programs. Teacher training programs should focus on preparing teachers to utilize, with skill and confidence, the new and emerging technologies of education such as experiential, interdisciplinary, and cooperative learning methods. These programs should challenge teachers to help them grow beyond the academics. This is particularly important for practicing teachers who have become comfortable with their current methods and are resistant to change.

Some anxiety is inherent within all change processes. Teachers, like students, should experience challenging activities that offer them the opportunity to stretch their preconceived boundaries. In doing so, one learns that anxiety, associated with change, is an educational problem that can be overcome through the experience. Outward Bound Educators' Courses offer just that opportunity. Outward Bound participants are asked to step out of their "comfort zone" to face challenging experiences in a supportive group atmosphere. Teachers who realize that fear is an educational problem, solved through experience, may be more willing to try new solutions to old problems and develop the tenacity to make those solutions work. In doing so, these teachers form a stronger sense of efficacy and, in turn, develop an increased willingness to assume risks. This new strength may lead to personal and academic growth for both the student and the teacher. Anxiety can not be eliminated from the change process, but as one anonymous Outward Bound student reportedly wrote in his/her journal, "The object is not to rid your stomach of the butterflies but to make them fly in formation!"

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MENTORING AFRICAN-AMERICAN AND EURO-AMERICAN DOCTORAL STUDENTS IN A MID-WESTERN, PUBLIC RESEARCH UNIVERSITY

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Introduction

African-Americans represent about 12 percent of the nation's total population, yet in 1990 comprised only 3.4 percent of the total population of U. S. graduates from doctorate programs (Carter & Wilson, 1992). Between 1975-76 and 1984-85, African-Americans doctoral graduates have experienced about an 11 percent net loss (Deskins, 1991). While the recruitment and retention of Black American students remain a real issue of concern for university administrators, the retention of many White students may also be largely contingent on the quality of mentoring they receive at the doctoral level. Undoubtedly, positive mentoring experiences are vital to the retention of many students in higher education (Busch, 1985). Mentors instruct proteges on the intricacies of their craft, inculcating values of their profession, and promoting neophytes through difficult stages of their academic programs and professional career development.

Mentoring studies of multiple racial groups in doctoral programs have been examined by few scholars. Clewell (1987) conducted a case-study of the retention of Black and Hispanic doctoral students in academe. Nettles (1990), also conducted a multi-racial study involving Black, White, and Hispanics students at four major universities, though mentoring was only marginally explored. Alleman (1986), compared the broader issue of mentoring experiences of Black and White professionals. Blackwell's (1987) study concentrated on Black professionals; Ogbah & Williams (1989), and Willie, Hope & Grady (1991) conducted predominantly single race mentoring studies, largely including Black graduate students and fellows.

Findings from single race studies on mentoring are severely limited in theoretical application to other groups. Do Blacks and Whites have similar opportunities for mentoring? How do factors of race affect the selection of mentors? Do some students pursue mentoring relationship while others do not? Lack of empirical data on these matters was the focus of this study.

This was an ex post facto descriptive study which uses both qualitative and quantitative methodologies to compare mentoring relationships of Black and White doctoral students attending a Mid-western, public research university. More specifically this study explored the mentoring experiences of Black and White doctoral students, using surveys and in-depth interviews.

Rationale for the Study

This study examines the evolution of mentoring relationships through formal contact opportunities with faculty: (graduate research and teaching assistantships, fellowships, classroom activities, etc.). Specifically, the relationship between mentoring and graduate assistantships as examined. Findings of the study may benefit university administrators concerned with enhancing the retention of all doctoral students at public, research institutions.

Research Questions

Specifically, this study focuses on the following questions:

1. Within the research sample, how many students held fellowships and graduate assistantships in teaching and research at the doctoral level in the 1992-93 academic year?
2. How many of these formal contact opportunities (fellowships and graduate assistantships) developed into mentorship relationships?
3. How were these mentoring relationships distributed by race, gender?

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Methodology

Sample Selection

Names and addresses of students were provided by the graduate college from the doctoral student enrollment registration for 1992-1993 semesters. The process of randomization was achieved by using the last digit of students' social security numbers and selected every "nth" record to obtain the desired count from a survey pool which included names and addresses of 280 students. Surveys were sent to 200 White and Black doctoral students throughout the university, among which 124 were White doctoral students. The entire Black doctoral student population (76) was included in the study. Surveys were returned by 84 White and 73 Black respondents, totaling 156 or 78% of the total sample. Twenty-four respondents (mentored and nonmentored, male and female, Black and White) were purposively selected from the survey data for in-depth, structured interviews. Interviews were conducted within two weeks of the conclusion of the survey phase of the study.

Data Collection and Analysis

(1) A 36 item survey was administered. It contained four sections, covering: (1) graduate assistantship experiences; (2) mentoring experiences; (3) Levenson's Locus of Control Assessment Scale (1974); and, (4) demographic background. With the exception of two open-ended questions, the survey instrument contained primarily closed-ended, Likert-type 5 and 6 point scale. The instrument was pilot tested with eight students from another research institution and six students from the subject university. A structured interview schedule was used for both mentored and nonmentored students respectively. Each questionnaire

contained 10 questions regarding either the presence or absence of mentoring experiences of respondents. These interviews provided qualitative insights to supplement quantitative data.

Data collection was conducted in two phases. Initially, a survey packet was sent to respondents, containing a cover letter, the instrument (a 9 page booklet printed on two-sides) and a stamped, self-addressed envelope. Campus mail was utilized only when respondents' local home addresses were not accessible. Post card reminders were sent to nonrespondents at the second and third weeks following the initial mailing. At this stage, new packets were sent to nonrespondents.

To determine the statistical significance between variables, closed-ended questions were analyzed through appropriate descriptive and inferential statistical techniques, including Chi-square, t-test, means, frequency, ANOVAs, and multiple regressions. SPSS statistical program was used in the statistical computation. The second phase involved structured, in-depth interviews with twenty-four respondents. Qualitative data obtained from open-ended survey questions were utilized in 24 in-depth, structured interviews. Data were analyzed through content analysis.

Preliminary Findings

The preliminary findings and discussion in this paper will only include cross-tabulated data which compare mentoring experiences of Black and White respondents to one formal contact opportunity with faculty, i.e., graduate assistantship. All tables can be found in the attached Appendix.

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The overwhelming value of research activities at public, research institutions is undeniable. Professors at these institutions are rewarded by their institutions based upon the quantity and quality of their research. Teaching and advising activities hold a lesser value. Therefore, the value of meaningful research work assignments to doctoral students can not be underestimated. One key assumption of the study is that these work assignments serve as primary vehicles for doctoral students to obtain opportunities for mentoring.

Distribution of Graduate Assistantships by Race

Graduate Assistantships and other sources were the primary sources of income for 68.6% (107) of those surveyed. Black mentored and nonmentored doctoral students accounted for 33.2% (47); Whites totaled 38.5% (60) students in this category. Of the 85 respondents who claimed Research Assistantships (RA), both groups of mentored nonmentored Whites accounted for 57.6 % or 49 of these assignments. Black mentored and nonmentored students represented the remaining 42.3% or 38 RA assignments.

Nonmentored Blacks and Whites had no Graduate Assistantship assignments which exceeded nine month terms. Of the 119 respondents who responded to this survey item, mentored Whites represented 34.8% (24) who worked at least nine months terms.

Methods for Attaining Graduate Assistantship Assignment

Institutional assignments of Graduate Assistantships occurred for 9.7% (7) for mentored Black students and for 7.1 % or 6 of the respondents in the total sample (N=156). While 5.6% of the mentored Blacks reported that they were recommended by their advisers, 8.3 of the mentored Whites identified similar

recomendations. Of those who were approached by project supervisors to assume Graduate Assistantships, mentored Blacks numbered only 1.4%, to mentored Whites 4.8%.

Race and Gender

Table 1 shows a breakdown by race and gender of all respondents, by mentored status, comparing responses of Black mentored and nonmentored students to White mentored and nonmentored students. From the total sample (N=156), males represented 67 or 42.9% of all respondents, females comprised 89 or 57.1%. Sixty-five (41.7%) of the Whites claimed mentored as compared to only 49 (31.4%) of the total number of Blacks in the sample.

A further breakdown of these figures is shown in Table 2., illustrating that among mentored African-Americans, 29 or 59.2% were female, while 20 or 40.8% were males. These data show a higher percentage of Black female, nonmentored respondents, 14 or 60.9%, than among the nine, (39.1%), nonmentored Black males. Among mentored Whites, males represented (32) or 49. 2% and females (33) or 50.8%. However, there were few nonmentored White males (6) or 31.6% of the total Whites in the sample, while nonmentored White women were (13) or 68.4% of the Whites sampled.

Mentors as Academic Adviser or G.A. Supervisor

The importance of the academic adviser to doctoral level students at research universities is underscored by the great number of Whites 85.9% or (55) who identified their adviser as mentor. On the other hand, only 66.0% (35) Blacks claimed their academic adviser as their mentors. (See Table 3.)

One key issue raised in this research was to determine the relevance of

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graduate assistantships to fostering mentoring relationships. Consequently, Table 4 provides a percentage comparison of mentored African-American and European-American students' relationship with their graduate assistantship supervisors. This table reveals that only 42.2% (19) African-American students identified G. A. supervisors as their mentors as compared to (38) or 61.3% of the European-Americans.

Perceived Value of Graduate Assistantships

Tables 5 and 6 further illustrate the disparity between experiences of these two groups. Respondents were asked to indicate the degree of their concurrence or disagreement with the statement that their "graduate assistantship assignments were related to" their "career interest." The possible responses to this item were, "N/A, never, rarely, sometimes, often." Table 5 and Table 6 reported here show a percentage comparison of only two responses: "sometimes" and "often".

Forty four or 62.0% of the 59 Whites who responded to the question indicated that they often found a positive association between their graduate assistantship assignments and their career interests. Only 22 (43.1%) of the 38 Black respondents to this question found such a positive association.

Table 6 sought to assess the extent of agreement among the groups about the relatedness of their graduate assistantship to their research interest. African-Americans again reported lower agreement on this question than European-Americans. Among the Blacks, only 37.3% (19) reported that this was "often" true, while among the (59) Whites responding to this question (36) or 51.4% found positive associations in this experience.

Importance of Mentor's Race

How do students rate the importance of race in the selection of a mentor? The differences in assessment of this quality in selecting a mentor is apparent in Table 7. Among the White respondents, 50 of 65 (76.9%) rated the race of the mentor as "somewhat unimportant." Only 18 of the 49 Blacks (36.7%) concurred with that assessment. More revealing are the scores when the three positive categories of responses are collapsed: "important, somewhat important, very important." When this occurs, the cumulative score for the 18 Blacks becomes (18.4 x 3) or 55.2% to a score of 9.2% of 6 White respondents.

Discussion

Cross-tabulated percentage data seem to indicate a disparity between experiences and perceptions of African-American and European-American doctoral students in the study. These differences seem even more apparent in light of the subsequent qualitative inquiry. While statistical significance will be delineated in a later report, clearly this preliminary analysis indicates that fewer African-Americans claim mentoring relationships than European-Americans. Whites appear more likely to claim their academic advisers and graduate assistantship supervisors as their mentors than Blacks. Further testing of these data may support the general findings in previous research regarding perceived alienation prevalent among many Black students at predominantly White institutions. It also appears that Blacks perceive these graduate assistantship assignments as less beneficial to them in terms of the relatedness of the assignments to their career or research interests. Whites found their work experiences to be much more firmly grounded in their career and research interests.

Both Nonmentored Blacks and Whites voiced a similar sense of alienation and distance from faculty as potential mentors. In response to qualitative inquiries regarding their reasons for nonmentored status, many responded: " I can't find one." Another White Male was even more emphatic: "Yes, I have established relationships with faculty, but they are largely superficial. I can't find one who cares."

Some nonmentored White females voiced their fear that any overt action they would initiate to establish mentoring relationships with males may seem inappropriate and that such assertive behavior could be mistaken as sexual advances. The line between appropriate assertiveness and the perception of inappropriate advances toward males in powerful positions seemed to blur and to mitigate against their taking any assertive action .

One Black female nonmentored doctoral student has subsequently transferred to another program at the university. She stated that she was unable to establish any relationship at all with the all-White faculty. "The entire faculty [in the former department] seemed to act as if I didn't exist. For example, my name was dropped from lists for financial support consideration. Mostly, they never acknowledged my presence."

In general, Blacks seem more acutely sensitive to race as a factor in the selection of a mentor than Whites in the study. One explanation could be that because of the scarcity of Black faculty members on the campus, this response by Whites is merely a reflection of the racial realities of their institution. Some qualitative perceptions of European-American students seemed to support this conjecture. Others seem to suggest more complex explanations. A White female,

nonmentored student responded to a question regarding the impact of race on her mentoring opportunities: "No, race was not a factor in my case. I'm White, and it's a White world. Gender may have relevance, but race would not."

Two nonmentored male, African-American students emphatically expressed no interests in pursuing mentoring opportunities with individuals from their colleges' all-White faculty. One had achieved his undergraduate degree at a predominantly Black college in the South and had maintained a strong mentoring relationship with a former NonWhite faculty member at his "home" college. The other belonged to a Black male mentoring fraternity from the large urban area within the state. He expressed a profound allegiance to his own group. "I came here solely for the technical information that I can gain here. I don't seek any more than that here." Both students had fellowship arrangements and had no ties to graduate assistantships.

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Table 1

Respondents' Race and Gender

N=156

	Respondent's Race				Total
	African American /Black		Euro American /White		
	Mentor Status		Mentor Status		
	Mentored	Non Mentored	Mentored	Non Mentored	
Respondents' gender					
Male	20 27.8%	9 12.5%	32 38.1%	6 7.1%	67 42.9%
Female	29 40.3%	14 19.4%	33 39.3%	13 15.5%	89 57.1%
Total	**49** **31.4%**	**23** **14.7%**	**65** **41.7%**	**19** **12.2 %**	**156** **100%**

Table 2

Percentage breakdown Within Race Categories

	Respondent's Race				Total
	African American /Black		Euro American /White		
	Mentor Status		Mentor Status		
	Mentored	Non Mentored	Mentored	Non Mentored	
Respondents' Gender					
Male	20	9	x	x	29
	40.8%	39.1%	x	x	40.3%
Female	29	14	x	x	43
	59.2%	60.9%	x	x	59.7
Total number	n=49	n=23	x	x	72
Total percentage	100. 0%	100. 0%	x	x	100.0%
Male	x	x	32	6	38
	x	x	49.2%	31.6%	45.2%
Female	x	x	33	13	46
	x	x	50.8%	68.4%	54.8%
Total number	x	x	n=65	n=19	N=84
Total percentage	x	x	100. 0%	100. 0%	100.0%

Table 3

Graduate Assistantship Supervisor as Mentor

	Respondent's race		Total
	African American /Black	Euro American /White	
	Mentor Status	Mentor Status	
GA supervisor as mentor	Mentored	Mentored	
yes	19	38	57
	42.2%	61.3%	54.8%
no	23	24	47
	54.8%	38.7%	45.2%
Total	42	62	104
	40.4%	59.6%	100.0%

Table 4

Academic Adviser as Mentor

	Respondent's race		Total
	African American /Black	Euro American /White	
	Mentor Status	Mentor Status	
Mentor is academic adviser.	Mentored	Mentored	
yes	35	55	90
	66.0%	85.9%	81.1%
no	13	8	21
	24.5%	12.5%	18.9%
Total	48	63	111
	43.2%	56.8%	100.0%

Table 5
Relationship of Graduate Assistantship to Career Interests

	Respondent's race				Total
	African American /Black		Euro American /White		
	Mentor Status		Mentor Status		
	Mentored	Non Mentored	Mentored	Non Mentored	
GA is related to career interests					
sometimes.....	12	1	10	3	26
.....	23. 5%	2. 0%	14.1%	4. 2%	21. 3%
often.....	22	8	44	8	82
.....	43.1%	15.7%	62.0	11.3	67. 2%
Total.....	n=38	n=13	n=59	n=12	n=122

Table 6
Relationship of Graduate Assistantship to Research Interests

	Respondent's race				Total
	African American /Black		Euro American /White		
	Mentor Status		Mentor Status		
	Mentored	Non Mentored	Mentored	Non Mentored	
GA is related to research interests					
sometimes.....	10	3	11	1	25
.....	19. 6%	5. 9%	15.7%	1.4%	20. 7%
often.....	11	6	36	5	66
.....	37.3%.	11.8%	51.4%	7.1%.	54.5%.
Total.....	n=38	n=13	n=59	n=11	n=121

Table 7

Importance of Mentors' Race

	Respondent's Race		Total
	African American /Black	Euro American /White	
	Mentor Status	Mentor Status	
	Mentored	Mentored	
N/A	0	2	2
	.0 %	3. 1%	1.8 %
not important	18	50	68
	36. 7%	76. 9%	59. 6%
somewhat unimportant	4	7	11
	8. 2%	10. 8%	9. 6%
important	9	0	9
	18. 4%	.0 %	7. 9 %
somewhat important	9	3	12
	18. 4%	4. 6%	10. 5%
very important	9	3	12
	18. 4%	4. 6%	10.5%
Total	n=49	n=65	n=114

TEACHING PERFORMANCE AMONG MIDDLE GRADE CAREER EXPLORATION TEACHERS AS COMPARED TO VARIABLE CERTIFICATION LEVELS AND ATTRIBUTES

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TEACHING PERFORMANCE AMONG MIDDLE GRADE CAREER EXPLORATION TEACHERS AS COMPARED TO VARIABLE CERTIFICATION LEVELS AND ATTRIBUTES

INTRODUCTION

Education for middle school students has attracted the attention of the agricultural profession as the profession assesses the status of enrollment in high school level agriculture programs and FFA membership. The National Task Force on Middle School Agricultural Education (1991) suggested that because of the nature and maturity level of the middle school student, the curriculum should include agricultural literacy and career exploration topics. Career exploration, as defined by the Vocational Education Program of Studies (1987), is an instructional component in the continuum from career awareness to occupational proficiency. Designed for the sixth, seventh, or eighth grade student, the program is career guidance oriented and serves as a precursor to more sophisticated skill-specific vocational training programs provided in grades nine through twelve.

In North Carolina, the student may or may not have an agriculture teacher as their Career Exploration teacher. By its exploratory nature, the career exploration program covers a broad spectrum of diverse topics directed toward enhancing the student's awareness of the world of work and understanding of the processes required for making informed career decisions. Knowledge and skills acquired by the student are generic to all vocational and many academic program areas pursued by the high school student.

The movement by the North Carolina Department of Public Instruction toward increased site-based decision making and accountability accentuates the necessity for local school administrative units to integrate planning, use of resources, and instructional delivery among disciplines, wherever such consolidation of effort can result in increased efficiency and effectiveness. As local planners seek to creatively administer resources, one obvious strategy rests with having instructional personnel teach in more than one subject and/or discipline area. The practice may be especially prevalent in small school districts or in schools with small student populations. With enabling department of public instruction policy in place, added credence is afforded interdisciplinary

teacher assignment.

Traditionally, the majority of teachers of career exploration have matriculated from the ranks of skill-specific vocational education program instructors at the junior and senior high school levels. Notwithstanding the norm, some career exploration teachers have taught in other, non- vocational education programs and disciplines prior to being assigned to career exploration programs. Without regard to student or teacher performance, there appears to be an assumption among many administrators and teachers that because career exploration is pre-vocational in nature and is, by all rights, a vocational education program, vocational education teachers can more appropriately teach the program.

The Division of Teacher Education and Certification Services of the North Carolina Department of Public Instruction currently requires that applicants for certification in the career exploration program area hold vocational education certification in at least one related skill-development program area, such as agriculture, marketing education, Technology Education, Business Education, or Vocational Industrial Education. Prior to the current revision of the Certification Manual: North Carolina Professional School Personnel, (1989), a number of applicants who did not hold prior vocational education program area certification were awarded career exploration certification through a variety of avenues, such as lateral entry and special exception requests. Current data place the proportion of practicing career exploration teachers in North Carolina's public schools who did not hold prior vocational education program area certification at 11.85%. Teaching performance expectations of teachers who fall within this category are identical to those for all other career exploration teachers, as are expected student outcomes.

Research on the relationship of teacher effectiveness to teacher demographic variables abounds. A broad spectrum of subject groups composed the populations studied, including teacher assistants, student teachers, elementary teachers, high school teachers, community college instructors, and college professors. Teacher effectiveness criteria employed included student assessment, self-assessment, peer assessment supervisor assessment, identified practices lists, teacher effectiveness standards, and assorted categorical groupings for performance activities of teachers. Measurement instruments ran the gamut and included surveys, structured interviews, expert opinion scales, informal and formal performance appraisal forms, check-lists, and descriptive data collection

forms. Statistical analysis encompassed numerous approaches ranging from simple comparison and ranking of descriptive data to highly sophisticated statistical procedures.

Findings reflected a "mixed bag" of relationships and degrees of relationship. Rush (1985) found a positive correlation between teacher effectiveness and all demographic variables studied, yet conceded that most of the variance in teacher effectiveness could not be explained by education, age, or experience. Fusi (1982) found that teachers' and students' ratings of teaching effectiveness, analyzed according to each of seven demographic variables, showed no statistically significant relationship between teaching effectiveness and any of the variables of interest. Hedges and Papritan (1987), examining the attitudes of experienced vocational agriculture teachers concerning proper ingredients for excellence in teaching, found no demographic variables named in the eight characteristics identified.

Such disparity in findings may have been appropriately described by Vincent (1969) who noted, In the absence of definitive measures of teacher performance, the teacher variable will continue to be a difficult one to control. In general, a great body of research reflected little relationship between demographic characteristics of teachers and teacher effectiveness. Some studies did, however, show significant relationships on some demographic variables; some for all; some for none. Findings were thus mixed on the issue. No research was found which compared the relationship of teacher effectiveness and certification type or level. Is vocational certification an important credential for measuring middle school teachers teacher performance?

PURPOSE AND OBJECTIVES

The primary purpose of this study was to compare the teaching performance, as measured by the North Carolina Teacher Performance Appraisal Instrument, of career exploration teachers who held prior vocational education certification with the teaching performance of career exploration teachers who did not hold prior vocational education certification in the public schools of North Carolina. A secondary purpose was to compare teaching performance using selected demographic variables. In addition to prior certification category, the teacher demographics of level of certification, gender of the teacher, average class size taught, years of teaching experience, and age of the teacher were assessed for significance to teaching performance.

Specifically, the objectives of the research were to answer the following questions:

1. Is there a significant difference, as measured by the North Carolina Teacher Performance Appraisal Instrument, between the teaching performance of career exploration teachers in North Carolina who hold prior vocational education certification and teachers who do not hold prior vocational education certification?

2. Is there a significant difference, as measured by the North Carolina Teacher Performance Appraisal Instrument, in the teaching performance of career exploration teachers in North Carolina with "A" certification, teachers with "G" certification, and teachers with "above G" certification?

3. Is there a significant difference, as measured by the North Carolina Teacher Performance Appraisal Instrument, between the teaching performance of male and female career exploration teachers in North Carolina?

4. Is there a significant relationship between the average class size taught by career exploration teachers in North Carolina and their teaching performance, as measured by the North Carolina taught by career exploration teachers in North Carolina and their teaching performance, as measured by the North Carolina Teacher Performance Appraisal Instrument?

5. Is there a significant relationship between the age of career exploration teachers in North Carolina and their teaching performance, as measured by the North Carolina Teacher Performance Appraisal Instrument?

6. Is there a significant relationship between the years of teaching experience of career exploration teachers in North Carolina and their teaching performance. as measured by the North Carolina Teacher Performance Appraisal Instrument?

METHODS AND PROCEDURES

The research design selected for the study was descriptive, with a correlational component. The dependent variable was teaching

performance, and the independent variables were prior certification category, level of certification, gender, age, average class size taught, and years of teaching experience.

The population for the study was all career exploration teachers N = 953) teaching in North Carolina's public schools during the 1990-91 academic year. Two subgroups of interest were all career exploration teachers who held prior vocational education certification (N = 840) and all career exploration teachers who did not hold prior vocational education certification (N = 113). A stratified random sample was taken to ensure that both teachers who held prior vocational education certification (n = 264) and teachers who did not hold prior vocational education certification (n = 88) were appropriately represented.

Instrument design replicated the teaching performance rating categories on the North Carolina Teacher Performance Appraisal Instrument and added descriptive categories to provide data required to answer all research questions. The categories measured by the instrument on a six point scale include: Management of Instructional Time, Management of Student Behavior, Instructional Presentation, Instructional Monitoring of Student Performance, Instructional Feedback, Facilitating Instruction, Interacting with the Educational Environment, and Performing Non-vocational Duties. The instrument was submitted to expert panels and field tested with the profession to establish validity and reliability. A 73% inter-rater reliability level was achieved.

Requests for data were mailed on May 10, 1991, with a requested return deadline of May 31, 1991. One hundred thirty-four responses were received. A follow-up was mailed to non- respondents on May 30, 1991, with a requested return deadline of June 10, 1991. An additional 91 responses were received. A telephone interview was conducted with a ten percent random sample of those individuals who had not responded by June 10, 1991, and the survey instrument was administered via the interview. This procedure produced three additional responses, for a total of 228 responses (64.77% of the sample). Data from late respondents (those who responded after receiving the follow-up letter and those who were interviewed via phone) were compared statistically to data from early respondents. No significant difference was indicated between early and late respondents when t-tests were used to analyze the data. Therefore,

the sample data were assumed to be representative of the population and

were combined for research purposes.

Descriptive statistics, including means, medians, and standard deviations, were used to describe the population. Inferential procedures were used to consider the research questions. These procedures included t-tests for the variables of level of certification, gender and prior certification category, and Pearson r correlations for the variables of age, years of teaching experience, and average size of classes taught. Davis (1971) conventions were used to describe the strength of the relationships or practical significance. An alpha level of .05 was established a priori for the study. However, to control for experiment-wise error due to multiple comparisons performed in this study, individual tests were conducted utilizing an alpha level of .01.

RESULTS AND/OR FINDINGS

No significant differences were found between the teaching performance of career exploration teachers who held prior vocational certification and those who did not for the eight teaching functions defined by the North Carolina Teacher Performance Appraisal instrument. No significant differences were found in teaching performance when comparing male and female teachers. However, there was a significant difference between teachers with "A" level (baccalaureate) (M= 4.60) certification and "G and above" level (master's or higher) (M= 5.05) on the teaching function of interacting with the environment (t= 2.98).

Table 1. Relationship Between Years of Teaching Experience and Teacher Performance Ratings by Function.

Teaching Function	n	r
Management of Instructional Time	221	.159
Management of Student Behavior	220	.144
Instructional Presentation	219	.241*
Instructional Monitoring of Student Performance	219	.125
Instructional Feedback	219	.188*
Facilitating Instruction	219	.125
Interacting with the Educational Environment	219	.139
Performing Non-vocational Duties	219	.216*

*p <.01.

No significant relationships were found between age and class size and the teaching performance level. As displayed in Table 1, significant relationships were found between Years of Teaching Performance and the following functions: Instructional Presentation (r=.241), Instructional Feedback (r=.188), and Performing Non-vocational Duties (r=.216). In terms of practical significance, the relationships were low.

CONCLUSIONS AND/OR RECOMMENDATIONS

Whether a Career Exploration teacher possesses vocational certification has little to do with teaching performance as measured by the North Carolina Teacher Performance Appraisal Instrument. However, the more education a teacher has, a master's degree or beyond, the more likely it is that the teacher will perform better in the function of interacting with the educational environment - including students, administrators, community. Age class size and sex of the teacher have little to do with teaching performance. However it should be noted that those who had larger class sizes tended to have lower teaching performance scores. The more years of teaching experience held by a teacher the better the teacher performs instructional presentation, instructional feedback, and non-instructional duties.

Certification requirements for Career Exploration teachers need to be evaluated to determine what type of preparation is needed for the middle school program. Further research is needed to determine if how successful Career Exploration teachers are in delivering subject matter competencies in the Career Exploration curriculum.

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Predicting Organizational Commitment through Work Related Rewards for Marketing Education and Health Occupations Education Teachers

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Abstract: The purpose of this study was to explore the ability of extrinsic and intrinsic work related rewards to predict the organizational commitment of vocational teachers in two areas--marketing and health occupations education. The dependent variable was organizational commitment. The independent variables included three intrinsic work related rewards--autonomy, significance, and involvement; and five extrinsic work related rewards--supervision, coworkers, promotion, general working conditions, and salary. Stepwise multiple regression analyses revealed significant differences between the model for marketing education teachers and health occupations education teachers.

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A number of problems facing teachers and the teaching profession have been identified by the Metropolitan Life Survey of the American Teacher (Metropolitan Life Insurance Company, 1984). Low salaries, poor working conditions, lack of prestige, and limited input into school decisions have caused dissatisfaction and excessive turnover in the teaching profession. Today, *Total Quality Management*, *Site Based Management*, and *Teacher and Student Empowerment* are just a few of the buzz words being used to suggest reforms in the current crisis in education.

Cetron and Gayle (1991) address the education reform in their book, Educational Renaissance. One chapter of the book examines the teaching profession, a profession in chaos. In 1987, they found the annual salary for beginning teachers averaged $17,500; by comparison beginning accountants earned approximately $21,200, computer specialists earned $26,170, and engineers earned $28,500. The pay scale has improved little since then. Because of starting salaries, teachers' colleges are unable to recruit the best students. Teacher educators point out that there are too few teachers to go around and predict that this shortage will continue well into the 21st century. By the time a teacher has been teaching in the classroom for five years, there is a 50% chance that he or she will leave the profession; if the teacher is employed in an urban area, that chance increases to 75%. Why this high dropout rate among teachers? Lack of commitment, stress, burnout, poor salaries, and lack of power in the school have all been suggested as possible precursors of teachers leaving the profession. To counteract the high dropout rate, the profession needs to seek answers to these and other related questions concerning the work related rewards of teachers. Teaching does not occur within a vacuum. Schools, school administrative personnel, resources,

coworkers, salaries, and other variables impact the work related rewards of teachers and their attitudes toward the organizations in which they work. O'Brien, Akroyd, and Richards (1993) noted that

> ...some teachers report being extremely pleased with their schools and school systems, and appear to be quite dedicated to the overall success of those organizations. Often, such teachers are more involved in general school activities and usually enjoy pleasant longevity in their positions. Other teachers, however, report being very displeased with their schools and consequently are disinterested in the overall success of their schools. These teachers tend to be involved in the general activities of their schools as little as possible and may actively seek reassignment or relocation. In many ways, the organizational commitment of teachers is vital to the overall effectiveness of schools (p. 4).

Review of Literature

The purpose of this study was to explore the ability of extrinsic and intrinsic work rewards to predict the organizational commitment of teachers in two vocational areas: marketing education and health occupations education. A review of the literature revealed that only a few studies have focused on the work related rewards of vocational teachers. One study (Akroyd, Richards, & O'Brien, 1992) reported the predictive value of work related rewards as determinants of health occupations education teachers' work satisfaction. Another study (Berns, 1989) identified the work related rewards of marketing education teachers. No research studies addressed the organizational commitment of health occupations education or marketing education teachers.

Work Related Rewards

Work related rewards were studied most commonly in reference to their relative importance as determinants of work satisfaction. Herzberg (Herzberg, Mausner, Peterson, & Capwell, 1957) proposed two basic classes of work rewards: (a) intrinsic factors such as achievement, recognition, and advancement; and (b) extrinsic factors such as pay, working conditions, and job security. Work satisfaction is viewed as the level and direction of an emotional state resulting from the appraisal of one's work and work experience and, in part, is a function of the individual's work rewards (Kallenberg, 1977; Locke, 1976; Ronen, 1978). Most theorists have argued that the overall level of work satisfaction is determined by some combination of the various facets of work rewards such as satisfaction with salary, coworkers, and supervisors. They have agreed that a two-factor model appears to explain the general trends reflected in the data (Campbell & Pritchard, 1976; Dyer & Parker, 1976). Mottaz and Potts (1986) found the perceived reward model to be the most appropriate procedure for predicting overall work satisfaction. Akroyd et al. (1992) found that selected intrinsic and extrinsic rewards were predictive of HOE teachers' work satisfaction. Task involvement, an intrinsic reward, contributed more to HOE teachers' perceptions of their work satisfaction than general working conditions and salary, extrinsic rewards, but all three were significant at the .01 level.

Organizational Commitment

Mowday, Porter, and Steers (1982) offered a definition of organizational commitment which has three components: (a) a strong belief in and acceptance of organizational goals and values, (b) a willingness to exert considerable effort on behalf of the organization, and

(c) a strong desire to maintain membership in the organization. Research on organizational commitment has been examined primarily in relation to turnover (Ferris & Aranya, 1983; Hom, Katerberg, & Hulin, 1979; Huselid & Day, 1991; Mowday, Steers, & Porter, 1979; O'Reilly & Caldwell, 1980; Steers, 1977). Other research has established a relationship between job satisfaction and turnover intentions (Angle & Perry, 1981) and organizational commitment and job performance (Meyer, Paunonen, Gellatly, Goffin, & Jackson, 1989). Individuals who are committed to the organization are less likely to leave their jobs than those who are uncommitted (Porter, Steers, Mowday, & Boulian, 1974). Individuals who are committed to the organization tend to perform at a higher level and also tend to stay with the organization, thus decreasing turnover and increasing organizational effectiveness (Porter, Crampon, & Smith, 1976; Shaw & Reyes,1992). As this nation's schools face a shortage of vocational teachers, more research on organizational commitment is required.

Purpose of the Study

The purpose of this study was explore the ability of extrinsic and intrinsic work rewards to predict the organizational commitment of teachers in two vocational areas: marketing education and health occupations education. The following research questions were addressed in the study:

1. Which intrinsic and extrinsic work related rewards significantly contributed to the marketing education teachers' perceptions of organizational commitment?

2. Which intrinsic and extrinsic work related rewards significantly contributed to the health occupations education teachers' perceptions of organizational commitment?

3. Are there differences in the magnitude of work related rewards which contribute to teachers' perceptions of organizational commitment by program area--marketing education and health occupations education?

Methodology

Population and Sample

The population consisted of vocational teachers in two program areas: marketing and health occupations education. The two program areas were chosen because they represent different approaches to teacher preparation, traditional and non-traditional. Most marketing education teachers follow a traditional approach to teacher certification, a four year baccalaureate degree, whereas most health occupations education (HOE) teachers follow a non-traditional approach. The sample consisted of all marketing and HOE teachers in three states: Georgia, North Carolina, and Tennessee.

Instrumentation

The instrument consisted of four parts: sample demographic characteristics, extrinsic work related rewards, intrinsic work related rewards, and organizational commitment. The extrinsic and intrinsic work related rewards and organizational commitment were rated on a four point Likert-type scale: strongly agree (4), agree (3), disagree (2), and strongly disagree (1). The extrinsic and intrinsic work related rewards were measured using an instrument developed by Mottaz (1981). Organizational commitment was measured using the Organizational Commitment Questionnaire (OCQ) developed by Mowday et al. (1979).

The five extrinsic work related rewards included general working conditions, supervision, coworkers, promotion, and salary. General working condition were defined as

the extent to which there were adequate resources to teach, and addressed physical facilities, equipment, workload, and work hours. The second reward, supervision, was defined as the degree to which supervisors were perceived as supportive and helpful to teachers, and included such traits as competence, fairness, and friendliness. Coworkers, the third reward, were defined by the degree to which colleagues were perceived as being supportive and helpful, and included such traits as competence, helpfulness and friendliness. The fourth reward, promotion, was defined as the extent to which the job provided opportunity for advancement, and included both opportunity and fairness. Salary, the fifth reward, was defined as the extent to which teachers believed their salary to be comparable to other teachers performing a similar function, and included amount, fairness, and adequacy. Mottaz (1985) reported the reliability of these measures as assessed by Cronbach's alpha, which yielded a reliability coefficient of .71 for general working conditions, .82 for supervision, .82 for co-workers, .82 for promotion, and .83 for salary (pp. 369-370). Mottaz (1985) evaluated the construct validity of these scales by factor analysis. Principal components factor analysis with varimax rotation confirmed distinct factors which defined each of the scales.

The three intrinsic factors of work related rewards involved facets associated with one's job, and included task autonomy, task significance, and task involvement. Task autonomy was defined as the degree of self-direction in task performance or teaching. Task significance was defined as the degree to which the task was perceived as a significant contribution to the work process or teaching. Task involvement was defined as the degree to which the task was considered interesting and rewarding in itself. Mottaz (1985) reported

the reliability of these measures to be .92 for the autonomy scale, .79 for the significance scale, and .88 for the involvement scale (p. 369). Principal components factor analysis with varimax rotation confirmed distinct factors which defined each of the three scales.

The organizational commitment questionnaire consisted of 15 statements. Mowday et al. (1979) reported a median coefficient alpha of .90 with a range of .82 to .93 for 2563 employees in nine different public and private work organizations. The authors examined the construct validity through factor analyses. The analyses resulted in a single-factor solution and supported the conclusion that the items are measuring a single common underlying construct. Similar reliability and construct validity scores were obtained from this study.

Data Collection

A cover letter, questionnaire, and a pre-addressed stamped envelope were mailed to all 580 marketing education teachers and 348 health occupations education teachers in the sample. Questionnaires were returned by 475 (51%) teachers: 282 (49%) from marketing education teachers and 193 (55%) from health occupations education teachers.

Data Analyses

Data from the questionnaires were entered into a database and analyzed using Version 6.4 of PC-SAS (SAS Institute, Inc., 1987). Frequency distributions and cross tabulations were used to confirm statistical assumptions. Correlation analyses identified the Cronbach coefficient alpha for the dependent variable and each independent variable. Two stepwise multiple regression analyses were run to identify which independent variables (extrinsic and intrinsic factors) were predictors of the dependent variable, organizational commitment for teachers by program area. The magnitude of contribution of each significant variable was

determined by its standardized beta weight. A standardized beta weight close to 1.0 indicates a substantial contribution, while a weight close to 0.0 denotes little or no contribution (Pedhazur, 1982). A conservative significance level of .01 was used in all statistical interpretations due to the amount of variance not accounted for by the model.

Results

Analysis of the two multiple regression models yielded significant results. Six of the eight independent variables entered the stepwise procedure for marketing education teachers with five of the six significant at the .01 level. Five of the eight independent variables entered the stepwise procedure for HOE teachers with three of the five significant at the .01 level. The results are organized and reported as they relate to the three research questions.

Which intrinsic and extrinsic work related rewards significantly contributed to the marketing education teachers' perceptions of organizational commitment? Table 1 reports the standardized beta weights for those variables which the stepwise procedure incorporated into the model to explain the predictive ability of the independent variables upon the organizational commitment of marketing eduction teachers. Two intrinsic and three extrinsic work related rewards were significant at the .01 level.

Which intrinsic and extrinsic work related rewards significantly contributed to the health occupations education teachers' perceptions of organizational commitment? Table 2 reports the standardized beta weights for those variables which the stepwise procedure incorporated into the model to explain the predictive ability of the independent variables upon organizational commitment of health occupations education teachers. Two intrinsic and one extrinsic work related rewards were significant at the .01 level.

Table 1

Standardized Beta Weights on Organizational Commitment for Marketing Education Teachers

Variable	Standardized Beta Weights
Supervision	.2188*
Significance	.2158*
Involvement	.2137*
Promotion	.1592*
Coworkers	.1258*
General Working Conditions	.0985
Model Statistics:	
R-Square = .44 F = 37.52 p = .0001	

*p < .01

Are there differences in the magnitude of work related rewards which contribute to teachers' perceptions of organizational commitment by program area--marketing education and health occupations education? The stepwise procedures revealed notable differences between the model for marketing education teachers and the model for health occupations education teachers. Two intrinsic work related rewards with similar weights are found in both models. Both marketing education and health occupations education teachers perceive that significance (work is worthwhile and makes an important contribution to teaching), and

Table 2

Standardized Beta Weights of Independent Variables on Organizational Commitment for Health Occupations Education Teachers

Variable	Standardized Beta Weights
Significance	.2411*
Involvement	.2135*
General Working Conditions	.1591*
Supervision	.1539
Coworkers	.1169
Model Statistics:	
R-Square = .34 F = 21.21 p = .0001	

*p < .01

involvement (work is interesting and challenging and provides a sense of personal fulfillment from helping students reach their potential), are predictors of organizational commitment.

Four extrinsic rewards also were significant: supervision, promotion, and coworkers for marketing education teachers, and general working conditions for health occupations education teachers. The extrinsic rewards in one model were not significant in the other model. In the marketing education teacher model, supervision, with a standardized beta weight of .2188, entered the model first. Promotion (.1592) and coworkers (.1258) were fourth and fifth, respectively. General working conditions (.1591) entered the health

occupations education teacher model in third place and was the last significant variable to enter the model.

Discussion

In order to explain the differences between the marketing education and health occupations education models, the authors looked at the paths to teacher certification which are required for secondary schools. As previously noted, marketing education teachers usually follow the traditional path to teacher certification. They are graduates of four year baccalaureate programs in teacher education. Socialization of the students into the teaching profession occurs through courses which provide interactions and experiences with schools, their principals, and teachers. These courses include both observational and actual hands-on teaching experiences under the close supervision of cooperating teachers employed by the secondary schools. Thus, these graduates have many opportunities to explore and experience the actual job performance of teachers and become familiar with the mores of the schools in which they expect to be employed as future teachers.

The same does not hold true for HOE teachers. These teachers do not follow the traditional path to teacher certification; they are employed as teachers based on their health specialties (usually nursing) and years of experience in the specialty. They come directly from industry without prior experiences in the school system. Courses in pedagogy are taken only after they are employed as secondary teachers. Therefore, HOE teachers have no opportunities to experience the job performance of teachers or the mores of the schools.

These two paths to teacher certification may explain the differences in the perceptions of the two groups of teachers. Marketing education teachers perceived supervision as the most

important variable in their organizational commitment. Through their previous school experiences, they have had more opportunities to interact with and recognize the importance of school administrators who are supportive and helpful in their roles as teachers. Health occupations education teachers have had no such previous school experiences. In their previous roles in industry, they served as independent health care practitioners requiring little or no supervision. They were considered the experts in their respective fields. Although supervision entered the health occupations education model, it was not significant at the .01 level.

Two intrinsic rewards, significance and involvement, were significant to the organizational commitment of both groups of teachers. Both groups perceived their work as worthwhile, really important, and making an important contribution to teaching (significance). Both groups also viewed their work as interesting and challenging and derived a sense of personal fulfillment from helping students reach their potential (involvement). Typically, teachers work in isolation within their classrooms. The feelings of isolation can be counteracted (a) by school administrators who are perceived as helpful and supportive; (b) by coworkers who are friendly and willing to share their expertise; (c) through promotional practices which promote equal opportunity for advancement and recognize teachers' strengths; and (d) through general working conditions which provide adequate resources, supplies, and equipment for effective classroom teaching. There was no similarity between extrinsic rewards in the two groups. Marketing education teachers perceived supervision, promotion, and coworkers as significant to their organizational commitment. Their within school experiences as undergraduates may have

contributed to those perceptions. HOE teachers perceived general working conditions as significant to their organizational commitment. This perception may reflect their industry experiences. They were concerned with having adequate equipment, supplies and resources for effectiveness in the classroom.

The study yielded important information on what factors contributed to the organizational commitment of marketing education and health occupations education teachers. The information can be used to counteract excessive turnover. Schools administrations could use this information to increase satisfaction and reduce turnover of teachers in the secondary schools. Although administrators are unable to directly affect teachers' intrinsic values, Akroyd et al. (1992) noted that administrators can modify extrinsic factors in the environment to maximize the effect of such intrinsic values (p. 19). Administrators can provide a supportive environment for teachers by providing (a) equal and fair promotional opportunities for all teachers, (b) opportunities for teachers to interact and be supportive of one another, (c) supervision which is perceived as helpful and supportive by the teachers, (d) the resources and equipment that teachers need to be effective in their classrooms, and (e) public information on the need to improve teacher salaries. Effective schools require effective administrators and effective teachers. The contributions of effective administrators are paramount to increasing the work satisfaction and organizational commitment of teachers.

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